

PLATE L.

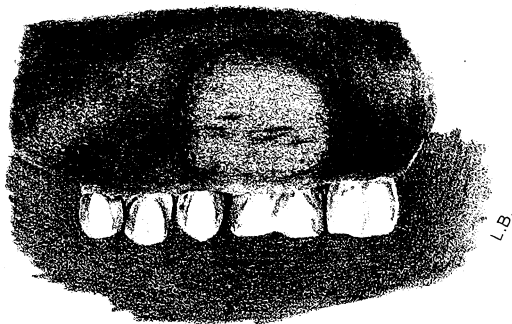


FIG. XLV. FIBIOMA

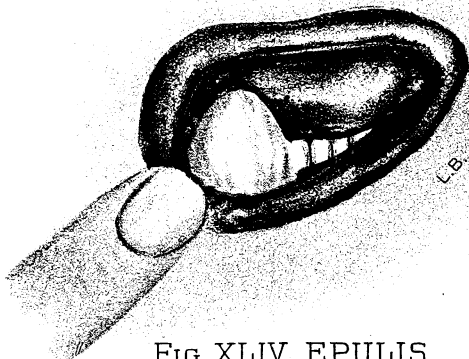


FIG. XLIV. EPULIS

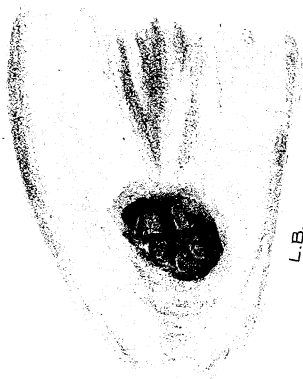


FIG. XLVI. AUGIOMA OF TONGUE

PLATE M.

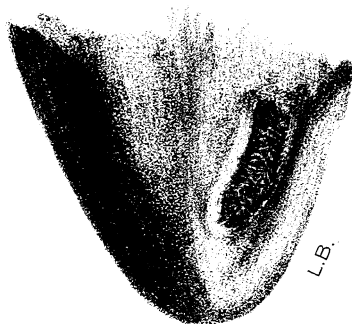


FIG. XLVII. PAPILLOMA OF TONGUE.

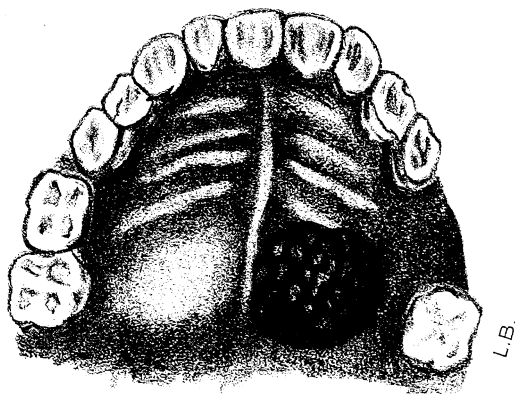


FIG. XLVIII. PAPILLOMA.

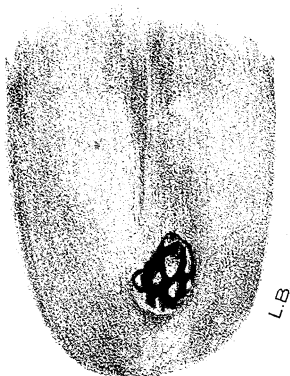


FIG. XLIX. PAPILLOMA OF TONGUE.

ITEMS OF INTEREST.

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ORIGINAL COMMUNICATIONS.

ORAL DISEASES;

SURGICAL AND NON-SURGICAL.

By W. F. Reh fuss, D.D.S., and L. Brinkmann, M.D.

[CONTINUED FROM PAGE 263.]

EPULIS.

Among the tumors, taking their origin from bone, and particularly the inferior maxilla, epulis is most commonly found in this region.

Epulis was a term applied by the older surgeons to all tumors involving the alveolus, but strictly speaking it is of the non-malignant variety. The former classification divided these growths into two classes, the fibrous and the sarcomatous epuli. The term epulis to-day is, however, only applied to a growth, taking its origin either from the alveolus or the peridental membrane.

When first seen it appears as a simple hypertrophy of the mucous membrane; from its hystological structure consisting of dense, fibrous tissue, it would naturally make it a tumor of slow growth. As the epulis continues to grow it takes on the form of a tubercle, slightly pediculated and of a florid color. It has a tendency to displace the teeth, and when it has reached sufficient size, may naturally interfere with the process of mastication and the movements of the tongue. These tumors, in the course of their growth, sometimes override the teeth, and later imbed them within their tissues, and upon a subsequent removal of the growth and section the teeth may still be found within. Lamella of bone have been found upon making a section of epulis, and these probably originated from the alveolus at the seat of origin of the tumor. At times the epulis grows with rapidity, and under such

circumstances it is associated with lancinating pains, peculiar to bone affections. The treatment of epulis consists wholly in surgical interference. The mere removal of the mass is not sufficient to prevent its return, as it originates either from the periosteum, alveolus or peridental membrane. It would, therefore, necessitate ablation of the focal point of origin. An incision should be carried around the base of the epulis down to the bone, including the periosteum, which should be removed with the growth. If the underlying alveolus is found to be involved, it should be chiseled away, and the actual cautery applied to the bone surface to excite exfoliation. If the seat of origin is from the peridental membrane, the tooth or teeth where the epulis is attached, should be removed to give free access for the destruction of the periodontium with the galvanic or actual cautery.

After the removal of the growth the mouth must be kept in as aseptic a condition as possible, by frequent irrigation with a solution of boric acid, chlorate of potash, and peroxid of hydrogen. This will cause an early separation of the exfoliating tissue, and stimulate healthy granulation and final cicatrization of the wound.

Case XL, child 9 nine years, presented herself to me with a condition as shown in Fig. xlv, plate L. The history, in brief, owing to a decayed tooth, which was located at the site of the present growth; considerable pain was complained of by the patient. About a year previous to the removal of the growth the tooth was extracted. This, however, did not mitigate the pain which, if anything, was increased. Various remedies were applied locally, and anti-neuralgics administered without effect. About a month after the extraction of the tooth, a small nodule appeared at the former site of the tooth, which, in eleven months, had increased to size as shown in figure No. xlv. It was promptly removed, the bone to which it was attached chiseled away and cauterized, and the antiseptic mouth wash employed. No return of the growth has taken place. Instantaneous and permanent relief from pain was experienced after the operation.

PAPILLOMATOUS TUMOR.

Papillomatous tumors usually originate from the papillæ of the tongue, though they may be located on the gum or cheek. There are three varieties found in this region, the one most frequently seen is of the villous type, springing from the papillæ of the tongue, usually to either side of the median raphe, and appears as a sessile tumor covered by hypertrophied normal papillæ, the

free ends of the villi. When the growth has reached a state of development, show a distinct reddish discoloration, and often bleed when roughly disturbed by the movements of the tongue during mastication.

Their histological formation is described by Woodhead as a tumor with a soft velvety feeling to the touch. When removed and examined microscopically they show, instead of the normal simple papillæ, a branching mass of fibro-cellular tissue, and when the tumor is of rapid growth the cellular element predominates; next is found a fibrous layer supporting numerous blood vessels resembling those found in normal papillæ, but larger; at their point of junction with the surrounding tissues the vessels terminate in sinus or vascular pouches. On examining the vessels filled with blood or fibro-cellular element, the young cells with nuclei are seen to undergo division, and the proliferation of these cells send in prolongations into the general mass.

The second variety of papilloma is the warty, resembling somewhat in appearance a raspberry, only lighter in color. This is also found on the dorsum of the tongue near the tip, it is histologically similar to the villous type. The warty papilloma is of rapid formation, and as soon as the diagnosis has been formed had better be removed.

The third form of papilloma is that which occurs as a result of injury, followed by exuberant granulations, mostly found on the inner surface of the cheek, which has been continuously lacerated by jagged or carious teeth, or some foreign substance. Histologically it is similar to the other variety of papilloma, with the exception of the absence of the fibrous element. They often grow with considerable rapidity, depending on the amount of irritation produced. Lacking the fibrous element they offer less resistance to the surrounding structure, and their presence is not discovered as early as the other varieties. The patient's attention may be attracted to them on account of bleeding taking place when the growth is engaged between the teeth.

The treatment for this condition is the removal by means of the galvano or thermo cautery.

Considerable and even fatal hemorrhage has occurred following the paring down of one of these growths with scissors. These tumors are of a benign character, though they may recur after removal, when it will again be necessary to apply the cautery.

Case 34, plate M, Fig. xlvñ, occurred in a male, aged 29; had been an excessive smoker from his fourteenth year; first noticed a

peculiar sensation of tingling at the site of the tumor when smoking; later on, taking hot liquids in the mouth lancinating pains were felt which interfered, to some extent, with mastication. This was removed with a cautery, a perfect cure resulting.

Case No. 27, plate M, Fig. xlix, represents a syphilitic subject, aged 22, affected with a warty papillomatus growth of the tongue. This was removed with the galvano cautery. Internal medication of the mixed treatment for syphilis, consisting of the iodid of potash, 15 grains, and bichlorid of mercury, $\frac{1}{32}$ grains, three times a day in capsules.

ANGEIOMA.

Angeioma, angeiomata or nevus is a blood-vessel erectile tumor, and may be either congenital or acquired. It originates from the dilatation of the capillaries or the larger vessels. When the angeioma is found in connection with arterial derangement, a distinct thrill or bruit is perceptible in the tumor, which is synchronous with the heart beat. If these growths are of congenital origin they may appear quite insignificant, or even during adolescence; later they develop rapidly; this is more often found to be the case in that variety styled port wine or birth-mark, a dilated condition of the capillaries.

Angeiomata or nevus is found on the lips, cheeks, tongue, or even in the bone. In the latter instance it always occurs as an extension by contiguity of the condition originating in the soft parts.

STRUCTURE AND SYMPTOMS.—Angeiomata or nevus presents a sessile, slightly elevated growth, varying in size from a millet seed to an inch in diameter, and is formed by new or the dilatation of existing blood vessels. In these tumors there is free anastomosis, between the arterioles and small veins and capillaries. The color varies, according to location, it may be either a grayish blue or red, or if the capillaries only are involved the area occupied by this class show a diffused redness. When located in the skin the superficial and deep vessels may be involved and combined with the mass; microscopically may be shown sweat glands, hair follicles, fibrous and adipose tissues. Histologically the walls of the vessels are found to be crowded with cells.

The angeiomata are, as a rule, soft and yielding, though if of long standing or if much infiltration has taken place in the walls this may be the case. In the former instance the contents of the growth may be made to disappear by pressure, in the latter this is not possible, owing to a more fibrous condition of its walls.

The cutaneous or nevoid variety is usually of new vessel

formation, erectile in character, similar to the tissue of the corpora cavernosa of the male, and the clitoris and nipple of the mamma of the female. The walls of the dilated vessels or sinuses are composed of a dense fibrous tissue, containing muscular tissue of the voluntary and involuntary type, when the deeper structures are involved. The volume of blood carried in these tumors is variable, though the circulation is always active when the sinuses freely anastomose. At times, from some inflammatory action, communication between one or more sinuses become occluded, and these are then isolated as separate blood cysts.

The authors believe, under such circumstances, it would explain the presence of chalky substances (phlebolites), sometimes found contained in the angeiomata.

Pain is also a variable feature in these tumors, in some the pain is excessive, while in others it is entirely absent.

The diagnosis of angeiomata is easily established from the history of the case, the character of the growth, by the bruit or thrill when present, and the color. In females the amount of blood is often increased in these tumors during their menstrual periods.

The prognosis is favorable when the tumor is localized and the more important structures are not involved, but when extension takes place rapidly, when ulceration and gangrene occur with extensive hemorrhage the outlook is serious, and death may occur from hemorrhage, or as a result of the direct absorption of the septic material from the ulcerating or gangrenous mass, and produce septicemia or pyemia with ultimate death.

The treatment of angeioma has for its object the obliteration of the blood channels, and this is best accomplished in one of three ways, by electrolosis, by ligature, by the cautery or by acupressure.

Where the ligature is employed the mass either dries up and becomes mummified and drops off, or as the result of the infection of the mass by bacteria presents a gangrenous condition which is separated by the process of ulceration.

Where the angeioma is of the nevoid type the ligature is to be preferred; acupressure is one of the methods employed by the authors with very good results, the pins should be passed through the healthy tissues and deep enough below the tumor to get well beyond its confines, two or more hare-lip pins may be required to accomplish this; a silk ligature is the mode to encircle the mass below the pins, and is also passed from the pointed end of the pin to the head over the tumor, thus dividing it into many small portions and favoring early separation of the ligated portion.

When the ligature is employed it should be threaded to a stout needle, and this passed beneath the tumor, observing the same precautions observed in using the hare-lip pins, to be beyond the confines of the growth; next an incision should be carried around the base of the tumor through the skin, and the ligatures tied in the trough formed by the incision; this will suffice to prevent further circulation through the growth and its subsequent mummification.

Where the angioma is diffused and only capillary, it would be better to attempt to produce coagulation in the sinuses by electrolosis or the actual cautery, and thus offer a barrier to future circulation. Where this method is used care should be observed to attack the growth in patches not larger than a quarter of an inch square, and these separated for a considerable distance to prevent extensive ulceration or deformity by cicatrization. The remaining spots may be attacked at a later sitting. This method has proved quite successful in selected cases.

The authors have been quite recently employing linear cautery with the blade of the cautery knife (galvano) to the skin surfaces of the external or port wine angiomas, with a fair amount of success.

FIBROMA.

The most frequent seat for the development of the fibroma, within the scope of these articles, is found in the superior and inferior maxilla, in the shape of the hard fibrous or fibro-cellular tumor. Both the hard and soft fibroids are supposed, according to Broca, to be of dental origin, and of the varieties of encysted odontoma, easily removed and usually occurring in young persons. These fibrous growths are similar to those occurring in other parts of the body, especially to that form found in the uterus of the female.

Fibrous growths originate either from the periosteum or periodontal membrane, from the antrum of Highmore or from the dental canal of the lower jaw. When a fibroma occurs in the antrum of the upper jaw, or is of central origin in the inferior maxilla, as it increases in size absorption of the overlying bone takes place, till the growth perforates the bones and makes its appearance externally, as shown in Fig xlv, plate L.

Fibromata sends prolongations into the surrounding structures, and it is sometimes necessary, in order to effect a thorough removal, to chisel away the bed from which it springs. Secondary deposits are never found in connection with the true fibroma, and suppuration is only met with when the tumor has been subjected to irritation or punctured by an aspirator for diagnostic purposes. A.

carious tooth may be the exciting cause of the formation of a fibroma.

Nature at times attempts to stay the progress of these growths, by causing them to undergo one of three forms of degeneration, the cystic, fatty, or calcarious. It is supposed by Webber to undergo sarcomatous change if subjected to irritation.

The diagnosis of fibroma is made from the history of the presence of a tumor of slow growth, the pain always associated with bone affections lancinating in character, always worse at night, a non-lobulated tumor, whose surface presents an equal amount of resistance and sense of hardness to the touch, the absence of glandular involvement. When the tumor is central or originates within the antrum of Highmore, egg-shell crackling may be present when palpated similar to that observed in osteo-sarcoma, from which it can be differentiated by its slow growth; the osteo-sarcoma, a malignant tumor to the contrary, being a tumor of rapid formation.

The treatment is essentially radical. If the tumor is of periosteal origin it should be removed in toto, and with it the periosteum and bone which formed the seat of origin.

When it originates in the antrum of Highmore, or is of the central variety springing from the dental canal of the inferior maxilla, such radical means is not always necessary. If the tumor has as yet not perforated the external lamella of bone, this should be chiseled away, and an attempt made to enucleate the growth. Failing in this it may be necessary to divide the bands of adhesion. Under such a circumstance the walls of the cavity should be chiseled out and curetted to avoid the likelihood to return. After thoroughly freeing the cavity it should be irrigated with bichlorid solution, and packed with gauze to allow it to heal by granulation.

The precaution to be observed in this operation is the thorough aseptic preparation before the operation, and asepsis during the operation, which will facilitate a rapid convalescence and avoid trouble, some suppuration and probable disfigurement.

ENCHONDROMA.

Enchondromatous tumors are not seen as frequently as are fibromata. They, like the fibromata, may take their origin from the periosteum, peridental membrane, centrally or from the antrum of Highmore. It is a tumor of more rapid formation, and more prone to recurrence than is the fibroma.

Enchondromas are predisposed to undergo bony change, owing

to their histological nature. When they contain fibrous tissue this is less likely to occur. These tumors do not give metastasis, and when such is the case are most likely to be of the chondro-sarcomatous nature, which will be described later.

The diagnosis between enchondroma and fibroma is made on account of the more rapid growth of the former. It is lobulated, and is of a more dense consistency.

The treatment is essentially the same as for fibroma, thorough removal.

(To be continued.)

ALABAMA DENTAL ASSOCIATION.

Twenty-fourth Annual Session, April, 1893. Reported for ITEMS OF INTEREST by Mr. J. M. Walker.

The Alabama Dental Association met in the parlors of the Caldwell Hotel, Birmingham, April 11th, 1893, Dr. C. L. Boyd, Eufaula, President. After an invocation of the Divine blessing on the labors of the Association, by the Rev. T. J. Beard, rector of the Church of the Advent, and the customary addresses of welcome, the President read the annual address.

He spoke of the elevated standing to which the profession of dentistry has attained, and the benefits which it confers on humanity, and dwelt on the unrevealed painbilus of preventive dentistry, through the instruction of the people, and especially of mothers, in the comprehension of the demands of nature in the development and preservation of the teeth. He said: We know, or ought to know, the laws of nature and of dental hygiene, and we are untrue to our patrons and to our profession if we fail to impart this knowledge at every opportunity. He spoke of the large number of dentists who, notwithstanding the dental law, and the efforts of the Board of Dental Examiners, are practicing without license—men who are unqualified and unworthy to bear the name of dentist, and urged the setting apart of a fund by the Association for the feeing of lawyers, to see that such persons are brought to justice, and that the law is enforced.

Dr. E. S. Chisholm, Tuscaloosa, spoke of the great difficulty the Board experienced in getting at the facts in regard to parties practicing in violation of the law, and asked the coöperation of all in giving any information they might obtain. Such assistance would be appreciated by those having the subject in hand.

INCIDENTS of OFFICE PRACTICE were related and discussed.

Dr. Chisholm spoke of the great advances made in dentistry, especially in saving teeth that formerly would have been condemned. This is a grand move to the front.

Several cases of accidental injuries received, resulting in fractured maxille, necrosis, etc., were detailed, and modes of treatment discussed. Also several cases of so called *cancer*, and by proper treatment of oral or rather dental lesions. In one case an alveolar abscess from a lower incisor had been lanced under the chin, near the median line, by a physician who had been treating the patient for several years for cancer.

Dr. A. Eubank, Birmingham, had recently been treating an alveolar abscess, from a devitalized, superior, central incisor, which was discharging opposite the root of the second bicuspid, with a clear tract from one tooth to the other, the incisor being the only dead tooth in the mouth.

Dr. W. G. Browne, Atlanta, Ga., described his method of making a gold partial plate or piece of bridge-work, directly on the plaster model, without the use of dies. The six anterior teeth were the only ones remaining in the upper jaw. They were so badly worn down that Richmond crowns were placed on the four incisors. Gold crowns were placed on the cuspids. Over each of these was telescoped a crown, forming part of a saddle bridge, supporting the bicuspid and molars, from teeth on each side. The two saddles were not connected in the anterior portion of the mouth, but a bar $\frac{1}{4}$ inch wide, connected the rear ends of the bridges across the roof of the mouth, leaving the rest of the roof uncovered. The entire piece was constructed of No. 30 gage, pure gold, pressed into shape on the plaster model, the bar and saddles were stiffened with a platinum wire soldered to it; enough solder being flowed over to make an even surface. The teeth were put on with rubber attachments; marble dust was mixed with the plaster for the model. The whole piece constituted a double removable bridge, telescoped over the gold cuspid crowns. The teeth on the saddles antagonized with good lower molars, and the bite was raised in crowning the incisors.

Dr. Chisholm renewed his testimony, given at previous meetings, in favor of the Marshall Anchor Denture, which he has used many times with great satisfaction. This plate offers all the advantages of high-priced bridge-work, with almost the cheapness of an ordinary rubber denture.

Dr. R. C. Young, Anniston, related a peculiar case. He had

inserted a large contour filling in a central incisor. A year later, the patient (a young boy) returned, with the tooth much elongated and devitalized. He opened from the palatine surface, removed the devitalized pulp, and treated the root canal several times, leaving cotton and carbolic acid in the root canal. After the third sitting the boy failed to return for a year, when he came back for other work, saying that "the front tooth was all right." Having left only carbolized cotton in the root canal, Dr. Young examined the tooth, but failed to find any trace of the opening he had made a year previously. He thought possibly calculus deposits might have filled the opening, but there were absolutely nothing to show that it had ever been drilled.

Dr. T. M. Allen, Birmingham, advocated the use of aristol in place of iodoform in the treatment of root canals.

Dr. H. C. Boyd, Troy, described his method of using the English pinless teeth for rubber work, running gold pins through the holes in the teeth, allowing the ends to project far enough to solder a continuous band to the ends of the pins, inverting in plaster and asbestos for soldering. The teeth are then waxed up and the piece inverted well vulcanized as usual, making a strong but not cumbersome piece.

Dr. T. M. Allen exhibited a set of diagrams, showing teeth with crooked and tortuous root canals, offering for discussion the question:

HOW TO FILL SUCH CANALS.

He also showed a diagram, in colors, of a tooth which had been split open after extraction, showing in the enlarged diagram the very imperfect work in what was supposed to have been a perfectly filled root canal, the colors showing a small portion of chloro-percha near the apex, and a small portion along one side of the root canal—the rest of the canal being unfilled. An interesting discussion followed on the ways and means of treating and filling root canals, the materials employed, the drills and broaches best adapted to the work, what to do with broken off broaches, etc. The method advocated by the majority of the speakers appeared to be as follows: First *find* the canal, with a finely tempered broach; then enlarge it cautiously with graduated Gates-Glidden drills, raising and pushing the drill alternately to be sure it is not caught, depending on the patient to let you know when you have "got there." In case of a broken drill apply pure tincture of iodine and let it rust out; cut away enough of the tooth structure to allow direct access to the root canal for cleaning and filling. Dr. Chisholm advocates

cutting "straight through," securing contact of the medicaments with the living tissues outside of the apex, and out through the abscess. In the anterior root of first molars, search carefully for a second canal which is often overlooked and causes subsequent trouble. If the drill unfortunately goes through the side wall, as sometimes happens when the root has an abrupt turn, Dr. C. L. Boyd advises flooding the canal with thin chloro-percha, pumping it in till it goes out through the side. This will close the opening, and not prove an irritant to the external tissues. Dr. Boyd uses a medium size spear-point fissure drill to open up the mouth of the canal, then a large size Glidden drill, following down with smaller ones, down to a Donaldson canal broach to reach the apex. Anything that is too minute to be reached by these means does not contain sufficient organic matter to give any trouble.

FOR FILLING ROOT CANALS.

Dr. A. A. Pearson uses a paste made of oxid of zinc and oil of cloves, into which he works a little of the alloy used in amalgam fillings.

Dr. W. G. Browne uses oxichlorid of zinc because of its mummifying action on any shade of organic matter that may remain. To reduce this possible remainder to the minimum, he uses the hot air cavity dryer to dry the canal out thoroughly. When the bulb is properly treated the copper will be soft enough to be shaped by pressure to the form of the root canal, and he uses it as his root canal filing.

Dr. E. S. Chisholm thinks that if the canal is well cleaned, the apex hermetically sealed, and the opening from the crown cavity also perfectly filled, the space between may be occupied by a column of air with as good results as any more difficult filling; the elements of disease coming from the outside, if both doors are closed access is impossible. For the apex he uses gutta-percha carefully carried down.

Dr. C. L. Boyd thinks that moisture would eventually find its way through the cementum and tubuli, and reacting cause gingivitis and pericemental trouble. After thoroughly opening up and cleansing the cavity of debris, using peroxid of hydrogen, Dr. Boyd saturates the canal with carbolic acid, drying out all excess with a little cotton on a broach. He then dips this same moistened cotton in iodoform and dusts the internal walls. The canal is then filled with chloro-percha pumped in. Dr. Boyd believes that with his methods 95 per cent of all root canals can be opened up to and through the apex, and 90 per cent can be filled to the apex.

Dr. William Crenshaw, Atlanta, Georgia, uses thin oxichlorid of zinc, imbedding in it a copper or gold wire, after the method of Dr. Morrison, of St. Louis, though preferably he uses a sprig of gutta-percha, avoiding the risk of a fine metal point through the apex. By this method the oxichlorid is driven against the walls of the canal and to the apex by the entrance of the gutta-percha point, and the root canal is well filled.

Dr. T. M. Allen maintained that if all extracted teeth, with roots supposed to be filled, were split open, a large majority would be found to have but very little, if any, filling material in the root canals. It would not be necessary to split open more than three or four without proving this to be the case. He said, "We think we fill them, but all don't do it."

Under the head of

PHYSIOLOGY

the subject of nutrition was discussed at some length.

Dr. C. A. Murill attributes the decay of the teeth of women and children to their large use of starchy foods, as bread and butter, etc. A dentist, to be worthy of the title of doctor, which means *teacher*, should teach his patients about these things, prescribing the proper diet, especially for mothers and children.

Dr. R. R. Freeman, Nashville, Tennessee, spoke at great length on the subject of cleanliness as the great preventive of dental decay. On his bill-heads he inscribes the motto: "Clean teeth don't decay," and if complaint is made of the amount of the bill he refers to the prime cause. He also ascribes much of the trouble with the teeth of young children to modern methods of education. Nature is given no chance—children are forced in the struggle to keep pace with others; to lead a perverted pathological existence; their lives overshadowed by the cloud of mis-called *education*. Instead of being "drawn out" they are deprived and crushed by the burden that is laid on them.

Dr. Chisholm said the good Lord has put an abundance of good things before us, and he made man omnivorous, so we must choose our food from the vegetable and the animal kingdoms. Occupations, climate, modes of life, all have their modifying influence, but too much stress is laid on diet alone.

Dr. Westmoreland, Columbus, Miss., attributes the imperfections in children's teeth to eruptive diseases more than any other factor. With the idea that children "get over" measles, chicken-pox, etc., more easily when very young, they are exposed to the

whole list while the teeth are at the most critical stage of formation, and he believes this to be largely the source of the poor teeth.

Dr. A. A. Pearson quoted the case of the Prodigal Son, who lived on husks, but said we had no evidence to show that he had any better teeth than his brothers, who were living on the fat of the land.

Dr. J. Y. Crawford, Nashville, Tenn., attributes the specific affections of the oral cavity to want of functional activity. The peculiar influences of our highly civilized life lessens the functional activity of tooth structure, and results in lesions of the entire organism. The nervous system, the osseous system, the vascular system, are all component parts of the human organism, and all suffer from our present modes of life. We work the brain till it outstrips the body, and especially is this true of children, resulting in an impaired, overtaxed, nervous organization. There is an unequal development of brain and body. The teeth are prematurely erupted while imperfectly developed. The roots are prematurely absorbed. Their removal causes the premature eruption of the permanent teeth which, being brought into contact with external influences too early, are in their turn subject to early decay. The present system of education is more largely responsible for the vast amount of dental caries than anything else. We place the responsibility of raising our children on school teachers who, in nine cases out of ten, take up the business only as a step to something paying better, and who have no sense of the responsibility involved. A child has no business to be put to hard study till nature has provided it with a perfect apparatus with which to prepare the food to build up brain and body. Do not wean a child till it has an unbroken row of teeth. Do not put it to hard study till it has an unbroken row of permanent teeth. Nature will tell you when to put your child to school and when he is fit for it!

(Continued in our next.)

Some one announces the discovery of a new use for tin. A cotton fabric is coated with a clear paste of commercial zinc powder and the white of eggs. This coagulates on being dried, when the treated article is dipped into a bath of perchlorid of tin. The tin is precipitated on the zinc, and the tissue after being rinsed and dried is calendered, a process that imparts a brilliancy to the deposited tin. Material thus treated is said to be flexible and to retain its ordinary strength.

A NEW METHOD OF CLASPED PLATES
vs.
MOVABLE OR UNMOVABLE BRIDGE-WORK.

Dr. W. G. A. Bonwill, Philadelphia.

[CONCLUDED FROM PAGE 337.]

The objection to the system of bridging is that but few of even the best dentists are capable of performing the high class of work necessary to make it successful. It has been used in practice sufficiently long to show that there never was a more signal failure in any line of work, not even copper amalgam.

I have placed many bridges by nut and bolt. This is a process by which the parts can be unscrewed and removed and repaired, and then the nut replaced, and be as tight as a piece of engineering.

When I advocated the cutting of the proximal surfaces of teeth to arrest or anticipate decay, a howl went up all over the land. Now that it is "the thing" to bridge, the same men that abused me for doing what I knew was correct have no conscience in regard to mutilating the enamel of any tooth to which they wish to attach a permanent band. Their gold caps glare in the light, and make vulgarity more pitiable and the dentist more contemptible. Teeth can be clasped, however much they may be out of line or at an angle with the plate, and it will be seen that they will be of far more use and more artistic.

It is not necessary to fill the whole arch and palate with a plate, where a few teeth remain. A narrow, heavy plate, unyielding in character, will stay up just as well when confined alone to the alveolar border. Or where one, two, or three teeth in either jaw must be replaced, they will need but one full clasp and a very small plate to act as a saddle.

When the idea is once grasped of how a clasp should be fitted to a tooth without mutilating it, and how the clasp should be soldered to the plate, then dentists will see a new era dawning on them.

Be it understood, I am not in opposition to all bridging, but only such as is done by those not familiar with mechanical work. It is then the human teeth have to pay the penalty for ignorance and false ideas of art. There is no occasion to ever deface a tooth, save to sometimes remove sharp angles to allow the clasp to be firm, which does no harm if the surface is polished again.

What can be done to obviate all this?

First, how should a clasp be fitted to the natural crown of a tooth to prevent future caries, and also prevent wear, and of what material and how heavy or light the metal, and how wide and at how many points on the crown's surface should it touch to insure its steadfastness or security?

The thickness of metal is dependent on the length and width of clasp, and whether one or more clasps will be used to sustain the plate, or where there has to be very much spring to the clasp in passing over a crown that is much out of perpendicular.

The metal should be of platinized gold, without any lining of pure or twenty-two karat gold soldered on it next to the crown. The metal should be loosely fitted to the crown on the plaster-cast and afterward fitted in the mouth directly on the tooth, and made to touch in at least four places. It should not be struck up to fit accurately every inequality of the surface, nor should pure gold first be fitted to the tooth by burnishing it on and then soldering that to the platinized-gold.

If a clasp fits minutely all the surface of the crown, it makes of the minute space between the crown and clasp a capillary surface, and keeps the mucous secretions, as well as the fine food, forever in contact and with no space for circulation of the saliva. Whereas, if the band touches but a few places on the tooth-crown, it will rest just as firmly if it has been well fitted in the mouth and allowed to take its own position when tried on the crown.

Capillary power made by surfaces very closely proximated is the surest means of producing caries. Where a space is left, the points that do touch are in absolute contact, and, aside from a slight wear on the tooth, the surface cannot decay as when there is an actual and close fitting. If made of fine soft gold, there would always be danger.

A clasp is not needed to grasp the crown closely. The width of clasp should be as great as can be made, and to steady the plate without grasping it firmly. This will be a new idea to many.

Next to the clasp in importance is to know where it should be soldered to the plate, and on which side of the crown to allow it to go on and off, where the crown is much out of perpendicular.

In this lies the principal part of the plan, and on it depends greatly the success of the operation. The plate may fit perfectly, and also the clasp, but all is vain unless the point is known where to unite the band and plate.

This cannot be done unless a plaster impression is taken of both the clasp and the plate in the mouth, so that the exact relation

is obtained. The impression of plaster is now run with plaster and sand and the case soldered. To make the whole thing a perfect development the little gold angular tip must be soldered either to the clasp or the plate, to keep the clasp from moving up and down.

It should be made of heavy platinized gold and fitted to the top of the crown around which the clasp goes and on that part of it which will be free from the antagonism of the opposite teeth. The side of the crown should be selected and marked by observations made in the mouth on the first visit. These can be fitted on the plaster cast.

When the impression in plaster has been taken of both clasps and plate, the easier plan will be to pour plaster and sand into it, and it is then exact, all ready for soldering.

Before any teeth are placed on it, by all means try it in the mouth, to see if it will go in and out, for unless the impression has held all the pieces in exact apposition the plate will not go in or be removed easily. A little filing may be needed to help in the adjusting. Frequently, where the tip rests on the grinding surface of the crown, the latter has to be ground to let it rest firmly, which keeps the plate from anything more than resting in direct contact with the gum. This must be adjusted accurately, and the plate will act as a saddle on the gum to prevent riding. This rest prevents any changes of position of the clasp on the tooth, and also any chafing on its surfaces. It is a necessity. It is better it should be soldered to the plate than on the clasp, as there will be more steadiness, but it must not interfere with the spring of the clasp. The drawings will show the best place for them on the tooth-crown. They should be very strong, as the whole force of mastication falls on them. Use eighteen karat solder for every attachment. These tips can rest on either a gold or amalgam filling, or the body of the tooth. If the latter, the enamel may be cut to prevent the antagonizing tooth from touching the tip.

Where there is decay on the tooth to be clasped, I prefer to use amalgam containing much gold in it. There need be no fear of galvanic action or shock so long as the clasp is in direct contact with the amalgam.

My long experience with amalgam in these cases assures me that there is no action between these widely dissimilar metals to deteriorate their qualities as preservers of tooth substance, but the reverse; and the gold amalgam does not discolor.

I prefer to allow the edge of the filling to stand outside of the clasp, and not rest underneath it, at the top or next the grinding-

surface; and I do not hesitate to use the corundum wheel on the enamel, where slight projections interfere with a clasp resting securely. No harm can result where the cut surface is polished. If caries should occur at any point thereafter from accumulation of food, I should fill with amalgam. But this need not often result when cleansed after each meal.

The injury done to the tooth where a clasp is on it is from the food being allowed to remain for weeks in contact—never from the clasp where it touches, unless accurately fitted.

Each case must be thoroughly studied after the plaster cast is made, or the result will not be satisfactory. The points on the clasp and plate where the bar is soldered to connect them *are the vital parts*, and unless judiciously chosen and the bar made of platinized gold plate and the base plate of two pieces of gold soldered together to stiffen it, and the clasp of proper width and thickness, the strain placed on the mechanism will break it. The bar holding the clasp and plate must always be on the side of the tooth where there will be least resistance. Take a second inferior molar that has tipped forward very much, and also inclines to the tongue. Here the soldering should be done as far back on the buccal side of the clasp as can be accomplished. Then the spring of the clasp is not needed for the buccal side, but for the anterior and lingual sides, where projecting from a perpendicular. If soldered from the lingual side, it would be impossible to get the clasp on or off.

In upper plates it is generally the reverse, though there are many exceptions, and no rigid rules can be laid down. Each must be specially studied, or no good results. Nor can you rely on fitting plate and clasp to the plaster cast, and soldering from that—no, never do it! Take the trouble to take impression of both plate and clasp in the mouth, and then solder from that.

One of the greatest advantages, and one least likely to need repairing, is in the use of English crown-teeth used for rubber, or the tube-tooth for gold plate work. When vulcanized on, or soldered with backing, the grinding-surfaces are of porcelain, and are more artistic and sightly. Besides, if needing repair, it can readily be done. But when care is taken to make the plate heavy, and a stiff bar is used to connect plate and clasp, repairs are seldom needed. I prefer the English tooth, where no soldering is needed to attach it to the plate.

Above all else, the operator is clear from such vandalism as is practiced for permanent bridge-work, and has infinitely more pride

in the result. Spaces can be filled with satisfaction to patients and for far less money, and the profits be none the less.

A study of the cuts will give an idea of this work, but it will not appear so clear till it is attempted. The articulation for one or two teeth I do directly in the mouth, but for three or more I prefer my articulator, and put on the minute details after the teeth have been attached.

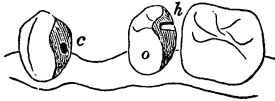


FIG. 1.

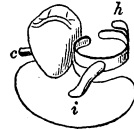


FIG. 2.

The letters on each cut have reference to the same parts on all. Fig. 1 is a cast for first upper bicuspid, right side. A filling of gold was placed in the distal surface of the natural cuspid with a hole, *c*, drilled into it for the pin *c* in Fig. 2. The second bicuspid had also a large amalgam filling, around which the clasp was placed, so that it would not show from the mouth. Fig. 2 gives the plate with an English crown, with pin soldered to the plate. The clasp has a tip at *h* soldered to it, and *i* is the heavy platinized gold bar, showing how it forms the attachment between plate and clasp, and just where; *c* is a pin, soldered directly to the plate, which enters the hole in the gold filling shown in Fig. 1.

Where no filling is in the cuspid I should use a short clasp fitted near the cervix, to reach from the palatal surface to the buccal, where it would not show from the outside, and soldered on the extreme palatal side to gain a spring.

Fig. 3 is the skeleton plate without the crown, which shows clearly the cast for which it was made. (See Fig. 5.) In Fig. 3 is *e*, the tip, resting on the second molar, soldered to the plate. On the plate next to the second bicuspid is soldered an upright with a tip, *e*, and a thin, narrow projection underneath it, which sets in a groove shown at *d* in Fig. 5, in an amalgam filling, to keep the anterior of plate in position and to prevent the plate from pressing too hard on the gum; *i* is the bar connecting plate and clasp on the lingual side. One or more pins for the crown can be used.

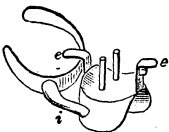


FIG. 3.

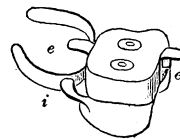


FIG. 4.

Fig. 4 shows the same with the crown cemented on with oxiphosphate, or vulcanized, or with gutta-percha.

Fig. 5 is a case, left side, lower jaw.



FIG. 5.

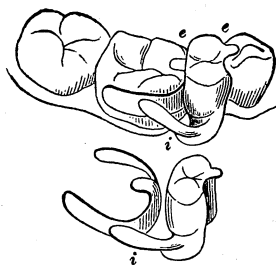


FIG. 6.

Fig. 6 is a second bicuspid tooth, right side, lower jaw. The bar *i* is soldered to the plate and clasp on the buccal side and the tip on the clasp on the first molar, and, as the crown is made entirely of gold, the tip is soldered directly to it to rest on the first bicuspid, and the anterior surface of the gold crown is made concave to fit into the distal surface of the first bicuspid, which prevents any movement laterally. A gold crown is used, as it is not seen, and facilitates the soldering and adds to the strength, and there is no danger of repairing in the future. The back tip, which rests on the molar, should have been soldered to the crown also, and less strain would come on the clasp.

Fig. 7 is an extreme case of tipping of the third molar, lower jaw, right side. The clasp was soldered to the plate on the buccal surface, and the plate at the second bicuspid was held as in Fig. 4. It could have been done by a narrow clasp to reach only partially around the second bicuspid, where it would not show on buccal side.

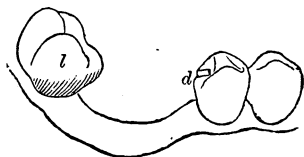


FIG. 7.

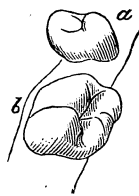


FIG. 8.

Fig. 8 is another extreme case where the second molar in the lower jaw projects toward the tongue and the second bicuspid toward the cheek. In this case the bar should be soldered on the buccal of the molar near its distal proximal surface at *b*, and the second bicuspid on the lingual surface at *a*.

I cannot urge too strongly the retention of all roots that can be made healthy when no crowns can possibly be placed on them. When allowed to remain, and these plates fitted directly on them, they become firm and non-irritant, and enable the same pressure to be used on the artificial teeth as on the natural, and are clean as any part of the mouth. I seldom remove a root that can be reclaimed. The satisfaction to the patient is great. The retention of one tooth, either with natural or artificial crown is enough to hold in position a full upper set, with a plate very narrow and confined alone to the alveolar border, and with no suction, if the articulation is perfect.

I can further assure the far more perfect success of these operations if the clasps are made to touch not more than at three or four points on the crown. Where fitted accurately, caries is doubly invited by capillary action.

Not least of all the virtues of this class of operations is that the average dentist in plate-work, or even the operator, can learn to successfully do it, when but few can pretend to do a respectable piece of bridging.

While it is so easily done if nice care be used, I do not wish to be understood that I would have any tooth extracted, knowing that it could be replaced so handily and to such perfect satisfaction to the patient.

I wish it further understood that the patients for whom I did these operations were not mine originally. I am thankful that from the very first of my career I have held the human tooth sacred, and as years advance I am jealous of every root that can be at all utilized. My conscience is clear in this, or I could not have laid claim to have extracted so few teeth from any cause. Whatever there may be about this method that is original, I freely tender it to the profession as not only worthy their serious attention, but free from any incumbrance.

The London school authorities have appointed ten dentists, with a salary of £150, to examine regularly the teeth of the poorer school children.

The catalogue and announcements of the University of Pennsylvania is quite a book. It shows the large field occupied by this institution, and the thoroughness of its course.

FLIES AND CHOLERA EPIDEMICS.

Prof. Shevtchenko, of the Pathological Institute of Kiev, Russia, has conducted some interesting experiments to show the part flies may have in the spread of cholera, and even of their being the cause of some mysterious epidemics.

He fed his flies on cholera cultures and human excrements containing cholera bacilli. The feces of the flies, as well as the intestinal contents of those killed, were carefully examined, and the following were the results:

The feces, two hours after the reception of the cholera culture, contained besides numberless saprophytes, also cholera bacteria. The feces, six and twenty-four hours after, gave relatively fewer saprophytes and more cholera bacteria. In the intestinal contents of the flies fed on cholera cultures, it was easy to prove the presence of cholera bacteria, after one, two, three, and four times twenty-four hours. The later a fly was killed after feeding, the more cholera bacteria were found. Those contained in the intestines did not lose their virulence after two and three times twenty-four hours.

As there are often enormous masses of cholera bacteria in the intestines of flies, the question presents itself, whether the flies are not to be regarded not merely as the spreaders of infections, but also as partly the source whence our food receives constantly new and fresh generations of cholera bacteria.

HOW SOME BOYS GET THERE.

I have been shown in your dental magazine an article in memoriam of the late W. W. Allport. It was the first intimation I had of his illness and death. The incidents you so well related demonstrating his characteristics that led him from a scanty home and an ill-appointed office to affluence, reminded me of his first starting out and subsequent venture in his profession.

Mr. Allport, while in my employ in Watertown, New York, was not a success as a tailor. I submitted patiently notwithstanding, thinking he might improve in time. But patience ceased to be a virtue, and though I liked the fellow right well, I had to say to him one day (all in good humor): "Allport, I think the tailoring business is too much for you. My advice is, study for the ministry. A good-looking fellow as you are will have more calls than

he can fill just as soon as he graduates." With a half smile he turned, said nothing, and went out. I saw nothing of him for several days, and when we next met he said to me, "Rolle, I am going to learn the dentist business with Roberson & Dunning."

"All right," said I, "and may the good Lord take a liking to you, and help you to be a better dentist than you would ever been a tailor." He laughed, and said he would try Him anyway. He had been with Roberson & Dunning about a year, or little more, when he brought in, for my inspection, a set of dental instruments, and as he unrolled them and laid them on the counter, "There," said he, "I made them, all but forging the irons, which Mr. Haddock done for me." They were as well finished and as beautifully mounted as any set I had ever seen. "Well," said I, "Allport, the promising success of your future lies through the opening of the mouths of a suffering and afflicted people—go ahead, I think you will make a dentist." A few days later he said to me, "I am going to try what I can do out in the country villages. I shall want a little money to start out on, for I am dead broke, and if I can make a loan from you, and not discommode you too much, I will be much obliged." I gave him what he thought was sufficient, and a little more, for fear he might run short. It was five or six weeks before he returned, when in he popped, with a broad, healthy smile on his face, "Well," said I, "Allport, how is it; has fortune smiled?" "Yes," he replied, "I have done much better than I anticipated."

I think this first success gave him courage, and swelled his bump of self-esteem considerable. He had a fair quantity naturally.

Ira L. Rowlson, Seneca Falls, N. Y.

DR. SUDDUTH VINDICATED.

Dr. Sudduth handed in his resignation as an honorary member of the Society, as he considered it his duty to tender his resignation pending the result of his trial by the Minneapolis Dental Society. The resignation was received, but not accepted. A committee of five was appointed to investigate and report. The committee, after due deliberation, brought in the following report:

To the President and Members of the Southern Minnesota Dental Society:

We, the committee appointed to consider the resignation of Dr. W. X. Sudduth, honorary member of this Society, now under

charges preferred by the Minneapolis Dental Society of having violated the code of ethics, do respectfully submit the following report :

That we have investigated the charges, have read the article which appeared in the *Minneapolis Tribune* of March 6th, 1893, on which the said charges are based ; that we have considered the report of the trial of Dr. Sudduth, before the said Society up to date. In our opinion the original article contains nothing on which to sustain the charges, and we do not consider it a violation of the code of ethics. After carefully considering the stenographer's report of the trial, and of such knowledge as we have of the case, it appears to your committee that animus has been shown in the bringing of the charges and the conducting of the trial. We feel that an injustice has been done to an honorary member of our Society.

We would therefore recommend that the resignation of Dr. W. X. Sudduth be not accepted, and that we exonerate him from the charge of violating the code of ethics.

Recognizing, as we believe, in this action a covert attack on the College of Dentistry of the Department of Medicine of the University of Minnesota, we would recommend that the Society place itself on record as deprecating such action, and express its confidence in the institution under its present management.

IDENTIFIED BY HIS TEETH.

A case that will probably become famous in medical jurisprudence recently occurred in Detroit. It was the perfect identification of a body by the teeth. Last July Dr. Eugene Sloman, was accidentally drowned in Omaha, Neb., and the remains were buried here. There was \$25,000 insurance on his life, and the insurance company recently refused to pay, professing to believe that there was no satisfactory proof of Dr. Sloman's death. The company asked for the privilege of investigating, which was granted. It was learned that Dr. Sloman had had considerable work done on his teeth in Omaha, and the dentist was brought here. When the remains were exhumed yesterday they were too decomposed for recognition, but the doctors made an exact description of all the marks on the teeth and all the fillings. This description was found to correspond exactly with the entries made by the Omaha dentist in his book at the time he worked on Dr. Sloman's teeth, and the identification is thorough.

WHY IS IT ?

Why is it that nearly all plate teeth are now made with cross-pins? They tell me at the dental depots it is because the demand is for such. Well, why? What possible object can there be in having them thus? Having used plate teeth forty-eight years, and till within a few years there was no difficulty in getting a supply of *strait* pin teeth, will some one who thinks all plate teeth should be made with cross-pins enlighten me on the subject?

There ought at least to be a fair show for those who believe that a tooth as thin as the average plate tooth, is much stronger with the pins lengthwise than crosswise, and will stand a greater strain. There are occasionally cases where the cross-pins are needed, as in short bicuspid and molars, and sometimes in fronts. Otherwise I can see no possible reason for such a *demand*, as the dealers say, for the cross-pin teeth. Let us hear from some of these dentists who do not use *strait* pin teeth.

Why is it that in making up sets of plain rubber teeth it is so often the case that *wide* fronts have *narrow* bicuspid and molars, entirely out of proportion, and *vice versa*? Gentlemen of the profession, why don't you *kick* about *this* thing and *demand* a change?

Why is it that so large a number of bicuspid and molars, even in the longest teeth, have a mere trifle of cusp over the pins, when the pins might just as well, and ought to be placed lower down, so as to give a longer lingual neck to the tooth that it could be shortened, if necessary, in articulating without grinding to the pins, and also admit of a more natural arrangement of the artificial gum? Did you never think of this, gentlemen? Then why not speak about it to your dealer, or write to the manufacturer?

We have finely-written and illustrated articles on "typical tooth forms," but they don't appear in the manufactured article. Bicuspid and molars, often too long by one-third, narrow, thin, unshapely objects, and, as before stated, with the pins almost at the ends of the teeth. And these molds numbered in one catalogue to nearly 100 of *upper plain rubber teeth*, when a dozen—six variations in length and six in width and thickness—would cover the vast majority of cases.

To me these are among the greatest annoyances of dental practice, and I cannot conceive how dentists can fail to see these glaring faults in the manufacture of teeth, or if they see them do not rebel against them.

L. P. Haskell.

CURRENT THOUGHTS.

THINGS PRACTICAL IN DENTAL PRACTICE.

J. G. Templeton, D.D.S., Pittsburg, Pa.

At the Ohio State Dental Society, Dr. Templeton gave an interesting talk on the above subject. Some of the ideas given were as follows:

INSTRUMENT POLISHER.—Burnishers give better results when new than when tarnished, and it is essential to keep them finely polished. In fact, it is desirable to keep all instruments polished. An efficient device for polishing can be made by fastening a piece of sole leather, or a piece of razor-strop, on a block of wood of suitable size, and placing a little diamantin powder on the surface of the leather; then polish instruments by rubbing briskly on this surface. Diamantin is used by jewelers, and can be obtained from them or from their supply houses.

TO MAKE MOISTURE TIGHT GUTTA-PERCHA FILLINGS.—Take common resin and dissolve in chloroform to desired thickness; place some of this in the prepared cavity, and by the time the gutta-percha is heated, the varnish will be in proper condition through evaporation of the chloroform. The varnish should not extend to the cavity margins. Apply the gutta-percha as usual, and pack with cold instruments. The cold instruments do not adhere as warm ones do. When completed the filling may be pared off to the proper contour by means of a heated thin blade instrument, and the filling smoothed by the application of eucalyptol or oil of cajuput.

TO DUPLICATE MODELS AND IMPRESSIONS.—Take printers' roller composition, melt in a water-bath till dissolved. Grease the model slightly with lard, and place it the same as if to mold a metal die, cover with a metal ring (a tin can opened at both ends will do), and pour the melted composition over the model. Let this stand over night. By morning the material is hardened and the model can be withdrawn. The composition being elastic it retains its shape, and a hundred models may be poured if necessary. Impressions may be duplicated in the same manner, by using impressions instead of model.

A USEFUL CLAMP.—Where the lower teeth have short and tapering crowns and it is impossible to make an ordinary clamp hold, use the Lyder clamp, and you will be successful.

TO DRY A CAVITY BEFORE FILLING.—After applying absolute alcohol to the cavity, use a solution of sandarach and ether to line the cavity; dry this with hot air, which forces it into the ends of the tubules, completely sealing them; then proceed with the filling.

IN LIGATING RUBBER-DAM, tie a small bead on the ligature, which, when tied around the tooth, will prevent the dam from coming over ligature; the bead should be on lingual side of tooth.

IN ARTICULATING TEETH, always take an impression of lower teeth when making an upper set, and in taking the bite have wax trimmed to show the length you wish the teeth to be, and bite into it just sufficiently to show the tips of cutting edges and cusps where the model made from lower impression can be placed in proper position, etc. For double sets, make wax models for contour in restoration of features and to show length of teeth, and then try these models in the mouth, being careful to see that you have it right; then make plaster articulating models for setting up the teeth, setting up the lower ones first against a plaster articulating plate, its articulating surface corresponding with the articulating surface of lower wax model, then lay aside the plaster articulating plate and put the model of upper jaw in its place, and set the upper teeth to the lower ones. I adopted this method about twenty-four years ago, and in that length of time have not had to grind a cusp off to let front teeth come together, and can say the same for the method of making an upper set alone, which is all due to the care taken to get a correct bite in such cases by taking an impression of lower teeth, which takes a little more time, but is all remunerated for in the satisfaction one gets from seeing there is nothing more to do when the piece is placed in the mouth with masticating surfaces perfect, and no need of any "grinding in" to get the front teeth together.

TO PREVENT PLASTER ADHERING TO RUBBER PLATES.—Coat the model with a thin solution of soap and water just before packing the case.

A METHOD OF SECURING PERFECT IMPRESSIONS FOR PARTIAL UPPER PLATES.—To take an accurate impression of the mouth for a partial upper set of teeth, smear plaster over the roof of the mouth with the finger, take a string about one foot in length, tie the ends together, put the tied end of the loop into the plaster on the roof of the mouth, and add more plaster to thoroughly imbed the knot, leaving the loop of string hanging down. In placing the plaster in the mouth care should be taken to have it come full half way

over the grinding surfaces of molars and bicuspid and cutting edges of the front teeth, then trim the plaster and varnish the trimmed surfaces. The plaster should be so trimmed that it will fill up fully one-half of all spaces between the teeth, then cover all the remaining surface of the mouth and teeth with plaster, being very careful to have the teeth well covered and spaces filled in putting on plaster for the buccal and labial surfaces. When set, the plaster impression readily parts where it has been varnished, the palatal portion is dislodged with the help of the string used, and the pieces are then placed together and model made. If a tooth is irregular, use modeling compound about it and trim suitably; then apply the plaster. If in removing it breaks where joined, remove the compound, place in position in the impression and pour the model.

Office and Laboratory.

THE USE AND ABUSE OF A GOOD CREDIT.

The majority of people desire to have a reputation for good credit and be able to get accommodation, if desired, on their established record for prompt payment of accounts. A good credit is something that is worth striving for, and when attained the possessor may rightfully feel a just pride in the fact that he possesses the confidence of those with whom he deals. A good credit standing properly used is an acquisition of unlimited value, but when abused it becomes one of the worst of curses.

The injudicious and extravagant use of a good credit has caused more failures and made more bankrupts in business than all other causes combined. By reason of a good credit, people become reckless in their expenditures, and when the tide turns and reverses come, they find themselves so far from shore that they are unable to stem the tide or reach the harbor. The art of judiciously using a good credit is an accomplishment. Its privileges often lead a man to purchase beyond his resources, and when the day of settlement comes around, he finds himself confronted with more obligations than he has resources to meet. It is far easier to contract a debt than it is to pay it. A man can get into debt almost unconsciously, but when pay-day comes, and he finds himself face to face with more creditors than he can satisfy, he realizes his mistake when it is too late to avoid it. And thus it is that thousands of men become hopelessly involved without any intention of wronging anyone, or of beating their creditors out of their just dues. It was because they had good credit and abused it.

Cosmos.

FOR SOLDERING IN THE COLD.

READER, ST. LOUIS.—A man came into my establishment recently and wished to purchase what he called "cold solder," but could give no other description than that it was a mixture of chemicals to be applied cold to metals, and that it soldered them together. I knew of no such chemicals, and told the man so. To-day another man came in and asked for the same mixture, calling it by some name which I could not catch, but something like Klin-ski's or Calinski's Cold Solder fluid. Do you know of such a fluid, and if so, how is it made?

We do not know of such a preparation, and think you are probably being "worked" for the benefit of some fellow who will come along in a day or two and want to sell you a few dozen of "Klin-ski's Cold Soldering Fluid." There is a process of cold soldering which is quite useful, and in some cases very valuable indeed, but it is not done with a fluid.

It consists of two alloys, the one of metallic sodium and mercury, and the other of metallic copper and mercury, prepared and used as follows: The flux consists of 1 part of sodium to 50 parts of mercury. This must be carefully protected from the atmosphere in a glass-stoppered bottle. This has the property of amalgamating any metal with which it comes in contact, forming an adhesive amalgam even on cast iron. The solder proper is made as follows: Dissolve 10 ounces of sulphate of copper in 2 pints of water, and then precipitate the copper by the introduction of strips of zinc. Wash the precipitate in hot water two or three times, drain off, and for every ounce of precipitated copper add 2 ounces of mercury. Add also a little sulphuric acid (say 15 to 20 drops), to aid in the amalgamation of the metals. The finely divided copper and mercury form a paste which sets and becomes intensely hard in the course of a few hours. It should be made up, while soft, into little pellets and put away. When required for use, first amalgamate the surfaces to be joined by rubbing them lightly with the flux. This is the equivalent of tinning in the ordinary soldering methods. Then take one or more of the pellets, and warm till the mercury begins to exude at the surface. Wipe off the exuded drops with a clean rag, and drop the pellets into a small mortar and rub till smooth, or about the consistency of prepared white lead. Smear this over one of the surfaces to be joined, and apply the other surface to the latter as quickly as possible. The joint sets so firmly in the course of two and a half to three hours, that only a hammer

and cold chisel, or a degree of heat sufficient to melt ordinary solder, can separate the surfaces.

For an even stronger and much quicker setting solder, where expense is no item, take the following to replace the copper and mercury, using the same flux :

Silver	8 parts.
Tin	10 parts.
Bismuth	1 part.
Platinum	1 part.

Melt together, and cast an ingot. Rasp to filings, or otherwise reduce to small particles. When required for use, mix about 3 parts of filings and 1 of mercury in a small mortar till it becomes a smooth paste. This sets in about fifteen minutes, and cannot be made workable again by heat; it must be mixed just as required. The omission of the platinum reduces the strength of the solder, and lengthens the time required to harden to about one hour. The omission of bismuth makes a more granular mass, which is better for filling up crevices. With bismuth, it is as smooth and plastic as potter's clay. Joints made by this solder are almost inseparable. It is very valuable in repairing surgical and philosophical instruments, the brazing of delicate springs, and in all cases where the application of heat would be hurtful or destructive.

National Druggist.

DISEASE IN THE ANTRUM.

J. B. Van Fossen, D.D.S.

Read before the Detroit Dental Society, March 13th, 1893.

This curious space is located in the body of the upper maxilla. There are several theories in regard to its real office. Some claim it is to make the bones of the face a little lighter; others, that it is a kind of sounding apparatus to give pitch to the voice; and still others claim it is for the greater distribution of the olfactory nerve to aid the sense of smell. One thing is certain; its disease is very disagreeable for dentist and patient.

This curious space has but one opening. This leads to the nose. Sometimes the roots of the teeth puncture the floor of the antrum, and in ulceration are apt to make a disturbance.

The case to which I wish to call your attention, was one I had in practice a few months ago. The patient was a lady, about forty-five

years of age. The first time I saw her was during the summer, and at that time she complained of a dull, heavy pain on the right side of her face, just below the eye. There seemed to be a slight swelling. I examined her mouth and advised her to have all the teeth in the upper jaw removed, which was done. The tooth that seemed to have made the trouble, was the first upper molar, and I remember I had some difficulty in taking it out. The tooth was free from decay, and the only one that was in a good state of preservation. In six weeks she called again. Her face was badly swollen, and she informed me she had been confined to her bed most of her time since I removed her teeth; her physician treating her for I don't know how many things. On examining her mouth, I found the opening where I had removed the molar tooth had not healed, and there was a small teat-like substance hanging from the opening, resembling gristle in structure. I removed it with some difficulty, but there did not seem to be any discharge. I, at once, mistrusted the cause, but, as I had nothing to treat it with, I plugged up the opening with a piece of cotton rolled hard and moistened with oil of eucalyptus, and dismissed the patient, requesting her to call the next day. On her return I took one of the largest sized "rose burs" and drilled through till I struck the floor of the antrum—making a good free opening. I then had the patient bend well forward over a large washbowl, and with a small rubber syringe I washed the cavity thoroughly, using as much force as I could in throwing the water into the antrum. I soon had a good discharge, most coming through the nose. The discharge was at first quite black, but free from odor. After washing with warm water, I threw in peroxid of hydrogen, and then a four per cent solution of boracic acid. After using the peroxid, the patient would complain of a stinging sensation for some time, and, I think, had I not had such a good opening it would have been better not to have used so much of it. Before dismissing the patient I was each time careful to cork the opening, to keep the secretions of the mouth out. I followed this treatment every day for about a week, without seeing any change. I then increased it to three times a day, and followed this up for about two weeks; at the end of that time I could scarcely detect any discoloration in the discharge. I then treated it once a day for a week, and then twice a week. It was but a short time before it commenced to heal—all pain subsided, swelling disappeared, and the patient got well. Could I have caused this disturbance extracting the tooth?

Register.

VICISSITUDES OF INVENTORS.

The history of invention is a medley of successes and failures. Much as the world owes of its progress and prosperity to the inventors, its debts have seldom been paid. No biographies of man can show so sad a series of misfortune, struggle, ostracism, and poverty of appreciation as those of inventive genius. Sacrifice, patience, will power of the indomitable type, and an unquenchable faith in results have been peculiarly characteristic of inventors as a class. It is seemingly a law in the process of mechanical evolution that, as in that of the organic world, the end to be reached is over a rocky roadbed of sacrifices and penalties. The process of invention is familiarized with this inscrutable but inevitable law, and though but a fractional part of the story has ever been told, there is enough of ashes left to tell the fact of the fire.

The inventor of printing by movable types was exiled from Strasburg to return a penniless wanderer, while those who stole his art not only robbed him of the fame, but amassed wealth by their larceny.

Crompton, the inventor of the "mule jenny," was compelled by the weavers of Blackburn to take it to pieces and hide it as he would a purse from a thief. He held on faithfully to his idea, and, when the storm subdued, reconstructed his machine, and as its merits became established the room in which it stood became a Mecca, with the capricious populace climbing into his windows by means of impromptu ladders. The inventor was persuaded not to secure a patent, but to donate his invention to the public. He did so, the public getting rich and the generous old man ending his days in privation and poverty.

Cartwright, the inventor of the power loom, after spending a fortune of \$150,000 to enrich his countrymen by his machine, was dogged by calumny and outrage, his patent rights infringed, and his mill burned to the ground. His services to public interests were eventually recognized, but not till the price had thus been paid.

Kay, the inventor of the fly shuttle, was beset with law suits, his rights infringed, and, after devising a power loom, a mob of weavers broke up his machines; the unfortunate inventor having to flee to France to save his life, the end of which was death in exile and poverty.

Examples could be multiplied without number in which the same story has been retold. Men are living to-day whose inventions have been stolen by others, or otherwise manipulated so as

to deprive them of their legitimate rights. The stealing of mechanical secrets is by no means rare, even consuls in foreign countries doing the larceny under the guise of patriotism. In some of our modern legal disputes as to the priority of some inventions, it occasionally crops out that the original idea was a stolen article, and the theft consummated by a barefaced claim to its inception and a consequent legal right to its returns. In these days more than in previous eras of history, inventions that are of public service can, in veteran hands, be made sources of considerable wealth, and when we consider that human nature is no more exempt from trickery in the nineteenth century than in any of its predecessors, it makes no difference in men whether they steal a patent or deceive an inventor. One thing is sure, aside from all moralizing, the history of invention in the past, and its unwritten story of the future, will be of one piece in its record of failures, struggles, successes, and the old hash in which the cook has less of the soup than the gourmand.

The Age of Steel.

REMARKABLE SURGICAL OPERATION.

Dr. Sutton, assisted by Drs. Stone, McGrew and Bomgardner, in the presence of many other physicians at the Allegheny Hospital of Allegheny, Pennsylvania, on the 26th of March, removed an ovarian tumor from a delicate woman, which weighed one hundred and twenty pounds, while the weight of the woman after the tumor was removed was only seventy-five pounds. The lady was forty-seven years of age, and was a private patient in the hospital, and for that reason her name is withheld.

When all was in readiness the patient was wheeled into the room and quickly placed on the table. Over the tumor, and about that line around the body, the measurement was five feet five inches, and over the tumor alone the measurement was thirty-six inches.

Dr. Sutton stood ready as Dr. McGrew administered the anesthetic, which was chloroform, instead of ether, as being more favorably adapted because less is required than of ether. The anesthetic performed its work rapidly, and then Dr. Sutton, assisted by Drs. Stone and Bomgardner, began the operation. The incision was made in a second, and it was soon found that the tumor was adherent to everything. The work was being performed with all possible haste, while the most careful watch was maintained over the patient. Contrary to expectation she held her advantage, and at 3.45, when the operation was completed, her condition was really

better than had been anticipated. She recovered quickly from the effects of the anesthetic, and was fully conscious before being placed in bed.

The tumor was of four years' growth, and during the last two years extended almost as rapidly as a mushroom. For several months she has not been able to stand, and could lie down only with exceeding discomfort and severe suffering.

The operation was more than ordinarily interesting, because of the great size of the tumor, the patient's very low vitality at the time, and for weeks previously, and the quick and unlooked-for rally from the shock. At night her condition was regarded as very good, and while it is yet too soon to claim a successful issue the surgeons in charge have strong hopes.

This is the largest ovarian tumor ever taken from a living subject. It is probably nearly twice as large as the majority of ovarian tumors removed from living subjects. The only tumor of this kind ever removed that approaches this one in size, was taken from a dead body in the Edinburgh infirmary, and weighed one hundred and twelve pounds.

Since the above was set in type, the lady, Mrs. Brush, died, about thirty-six hours after the operation. *D. and S. Microcosm.*

HOW I TREATED AN ABSCESS.

Dr. J. K. Moose.

Mr. C. called on me last August to get relief from an aching tooth. On examination I found the right lower second bicuspid abscessed. I opened the cavity in the crown and washed the canal with warm water; then removed as much of dead nerve as I could. I then tried to force warm water through apical foramen, but failed.

I loaded my hypodermic syringe with a drop or two each of creosote and tr. iodine, passed the point of needle through open sinus, and along the tube till it came in contact with root of tooth; with some force, I emptied the contents of syringe into the abscess, letting the surplus run out and catching it on cotton.

With floss silk, saturated in creosote, I filled the nerve canal, and filled the crown with gutta-percha.

I saw the patient seven months after, and the abscess had disappeared; the sinus had healed; the gums looked natural and healthy, and the tooth had not given a moment's trouble.

Southern Journal

NITRATE OF SILVER.

In applying nitrate of silver to cavities to arrest decay, or to prepare for painless excavating, I twirl cotton on a round-head bur drill, moisten the cotton with a saturated solution of the remedy, then touch the powder (scraped or crushed), and convey it to the cavity, rotate and keep in the cavity a few moments, then dry with a pellet of bibulous paper, and fill with beeswax to preclude moisture, till the following day, or for several days, if necessary. Around the necks of teeth near the gums, I apply the remedy in the same way, but for greater length of time, as I cannot, in such cases, use beeswax.

On the cutting edges, or grinding surface of the teeth, much worn away and sensitive, as is frequently seen, I apply the remedy in the stick form, direct to the sensitive surface for three to five seconds, which is ordinarily sufficient to abate all sensitiveness.

For removal of discoloration produced by application of nitrate of silver, a saturated solution of iodid potassium, stick and pulverized pumice or silex is all that is requisite.

To guard against the possibility of injury to mucous membrane by scraping particles of nitrate of silver, it is well to have at hand a strong solution of table salt. Quickly applied, it will prevent injury to the membrane.

I have never known injury to teeth by application of nitrate of silver, but results always satisfactory, as with sulphuric acid in treatment of pyorrhea alveolaris.

The man who first used it, and recommended use of it in treatment of teeth, possibly was buried a hundred years ago or more. There is no need now of questioning and disputing as to who first introduced the remedy. He is not here to assert his claim and receive thanks for the introduction of a good remedy.

To Dr. Stebbins, for resurrecting and infusing new life, thanks are due, and should be freely awarded by the profession at large.

The remedy is one of great power and merit. Give it a trial, watch results, and if satisfactory, say so. Use freely in practice, and recommend its use to others, and so do by all well indorsed and tested remedies, that prove valuable. That will be true conservatism, and *conservatism* must be the foundation stone of scientific, practical, common-sense practice of dentistry.

B. F. Arrington, in Dental Journal.

The mother gives 4th joy at the baby's 1st 2th.

ITEMS.

The soldering of aluminum which has long been a difficult problem, has been recently solved. By sprinkling the surface to be soldered with chlorid of silver, and melting down, the soldering is effected simply and satisfactorily.

Ohio Journal.

* * *

Phth-olo-gn-yrrh is the way a man named Turner rites his name. When askt to justify the speling, he, dropping r, said "Phth in phthisic is sounded t, olo in Colonel is sounded ugh, gn in gnaw is n, and yrrh in myrrh is sounded er!"

H. C. Bolton, in New York Sun.

* * *

Recent experiments conducted at the Pasteur Institute, in Paris, have shown that drinking water may be completely freed of cholera bacilli by the addition of fifteen grains of citric acid to a quart of water. As citric acid is an acid of lemon juice, it would appear that strong lemonade would answer the purpose equally well.

Good Health.

* * *

AN EXPLOSIVE POWDER.—Chlorate of potash and tannin are favorite drugs with many dental practitioners. We may therefore draw attention to a letter written to the *Chemist and Druggist*, in which the correspondent warned others of the danger which he himself encountered. A dentist ordered two drachms of chlorate of potash and one dram of tannin, and when these were mixed together in a mortar there was an explosion.

British Journal.

* * *

The introduction of another cement is mentioned, of specially valuable properties for steam pipes, in filling up small leaks, such as a blow hole in a casting, without the necessity of removing the injured piece. The cement is composed of five pounds Paris white, five pounds yellow ochre, ten pounds litharge, five pounds red lead, and four pounds black oxid manganese. These are mixed with great thoroughness, a small quantity of asbestos and boiled oil being afterward added. The composition as thus prepared will set hard in from two to five hours, and possesses the advantage of not being subject to expansion and contraction to such an extent as to cause leakage afterward, and its efficiency in places difficult of access is of special importance.

New York Sun.

We see from the public prints that the incorporation for a third dental college in Cincinnati has been effected, with a capital of ten thousand dollars, with six incorporators. It does not appear whether the faculty has been appointed yet or not, or when or where the college will be established. When that is done Ohio will then have six dental colleges, and though not one-third as many as Chicago has, yet we think quite enough for the present need.

Dental Register.

* * *

To adjust and hold in place the pieces of a broken denture preparatory to mending, fill a lower impression cup with softened modeling compound as to take an impression. Press the teeth of plate into this, and bring the edges of fracture together accurately. When the compound has become hard dip the plate into water and fill as when making a model. As soon as the plaster is hard soften the compound and remove it, and proceed as the case requires.

W. D. Tickner, Randolph, Wis.

* * *

EDITOR ITEMS:—In your April number, page 213, I find a communication about "ethyl chlorid," as the writer calls it. This communication was signed by Edward Eggleston. As I have used chlorid of ethyl, purchased from S. S. W. D. M. Co.'s agents repeatedly, I think it is but just to my brother practitioners to call their attention to the fact that this, as widely-advertised chlorid of ethyl, is nothing less than a most miserable swindle and humbug, and I hope that dentists will not be robbed in buying this utterly worthless charlatans' production, and injure their practice by trying to use it for the extraction of teeth without pain. The spray of the tubes is *not* a permanent spray by any means, and the application of this miserable drug is simply to annoy your patients, and place you before them either as a quack or a charlatan.

Geo. Monroe, D. D. S., Fresno, Cal.

* * *

An almost invaluable thing I have found for making explorations and examinations around the mouth, is to take a package of Sharp's No. 4 needles, and by the aid of an alcohol lamp and a pair of pliers they can be bent into any conceivable shape, so as to reach all points around or between the teeth. (The reason I say Sharp's No. 4 needles is, because they appear to me to be the most convenient size.) If a suitable point has not been made previous to an examination that will reach the desired spot, it is only the work of a moment to construct one just the shape desired. The

said points can be turned at any angle, and made so fine that they will penetrate almost the finest space and catch in the finest cavity, and by the use of a small file the large ends may be filed rough, so that they will fit and hold firmly in the ordinary nerve broach holder. The heating takes the temper out of the needles, rendering them quite tough. They are inexpensive, and you have any shape of exploring point desired.

Charles S. Hardy, Summit, N. J. *

* * *

Prof. Todd, of Philadelphia, says: The idea of manual training, from my point of view, is so to train the hand by the working of materials of different kinds that they can minister to the individual and make him a more nearly complete and perfect man intellectually, physically, morally, and spiritually. No one can receive a good intellectual training alone without obtaining a complete mastery over some of his physical powers by skill in handicraft. By making things that minister to his wants, both useful and beautiful, he is compelled to work physically and intellectually, and this necessitates harmony in both bodily and mental powers.

Again he says, medical men know that if we do not use our muscles they become stunted and useless. I find that most hand and mechanical workers do not have what I mean by manual training; they are not skilled in the use of their hands, both hands, working with equal facility in all directions. Most workers to-day can do nothing without their tools. The tools are always used before the hand is skilled behind them. That is the reason I advocate the four fundamentals, even at the expense of some other training, because they save time. The hand, the eye, and the judgment being trained, the tools of any or all trades will be handled with freedom and reason.

To conceive and create forms in material, compels thought and the use of the brain. The organs of muscular sense—sight, taste, touch—cannot be brought into play without bringing into use the completest tool of all, the brain. Must it not in all its fibers be exercised and developed through the outer branches of the nerves extending to the very finger tips; a ready instrument, instant and able to do the bidding of a skilled manipulator?

Nothing gives greater dignity to man than a complete realization of the power of being able to do. No joy is greater than that received by doing well with the complete being—brain, hands, judgment—all tools; God-given tools to be trained and used.

Review.

INTERNATIONAL REVIEW.

By George Randorf.

DENTISTRY AND THE MEDICAL SPECIALTIES.

As in the case of other "sciences," which, after traveling fast in a quasi-independent direction of specialization, come to be recognized as important branches of one trunk, so it seems dentistry is fast assuming an honored position as one of the medical specialties, subject to the general laws of biology, physiology, and we may also add sociology.*

Prof. L. Lührse, reviewing the progress of dentistry during the past fifty years, observes :

From a position of reputed inferiority which still pursues dentistry with its odium, it has risen to the rank of an acknowledged branch of scientific medicine, and high authorities of our days have attached their names to microscopic investigations in the service of this specialty ; great clinicians have pointed out the intimate connection of dental medicine with other medical specialties, and the therapeutic treatment of certain diseases has received a new direction from this knowledge.

Prof. Jul. Parreidt, of Leipsic, who is a persistent advocate of reforms in dental education, maintains that dentistry is a specialty of medicine, the same as midwifery, ophthalmology, otology, etc.

He advocates a common course of studies for dentists and physicians up to the *tentamen physicum*, and then somewhat separated courses. After enumerating a number of diseases of dental origin, which could be safely prevented by a timely consultation of a scientifically educated and experienced dentist, the learned author observes :

It speaks for the possible services of dentistry, and it also proves the high responsibility of the dentist. The responsibility is not less great in tooth extractions, which are so often accompanied by sad results when performed by one who is ignorant ; but also in fillings, for instance, the patients may be afflicted with long, and sometimes great sufferings if the operator does not possess a certain medical preparation and experience.

In this country, Dr. Stainton has expressed himself in the *Cosmos*, as far back as 1881, that, in his opinion, dentistry is naturally a specialty of medicine, his method of reasoning being somewhat as follows : Medicine is the art of preventing, healing and restoring a diseased organism, and dentistry is the same art

* As J. H. Bridges has admirably observed in his discourse on "Harvey and his Successors," before the "Royal College of Physicians," in London, "It is rational to believe that a better knowledge of man will lead to a better medicine."

applied to teeth. But the doctor did not think then that dentists ought to clamor for higher recognition, claiming that the time must come when representative men of medical science will themselves bestow on dentistry that honorable recognition.

Later, Dr. T. B. Welch has pointedly remarked in the *ITEMS OF INTEREST* that the real trouble is that

Medicine does not recognize a relationship with dentistry, nor does dentistry medicine. In theory we may be a branch; but, in fact, we are not. The two professions simply ignore each other.

However that may be, there is a grand opportunity offered now, at the coming International Dental Congress, to put that question in a somewhat more definite manner, and thus facilitate what is considered inevitable—an earlier *rapprochement* between the sadly estranged branches of a common tree to the greater blessings of humanity.

DENTISTRY 130 YEARS AGO.

We are under obligations to our esteemed German contemporary, *Zahnärztliches Wochenblatt*, of Hamburg, for publishing some extracts from the valuable little work recently discovered and belonging to the middle of the last century.

The 100-page booklet is entitled: "C. A. Gräbner's Thoughts on the Appearance and Change of Children's Teeth; with Hints for their Preservation in Adults." Hamburg, 1766.

On the vexed question of incidents of dentition he has among others the following sound suggestions:

If nurses were not fed on delicate food; if they would abstain from spicy and fat articles of diet; if they would not so much avoid physical exercise and fresh air; if more care were had, before accepting her services, as to the condition of her mouth as a necessary part of the health of her body, the result would be the greater freedom of the sucklings from many indispositions.

That Gräbner insisted on early care of the teeth and knew its full value, is evident from many allusions to that subject.

In discussing the best means of educating the children to this, the author, among other things, suggests the example of the parents and the special training of children in the use of the means for cleaning teeth. He also advises that a dentist be early consulted, who shall be regarded as much of a useful teacher as the dancing and drawing masters.

"For I am convinced," continues the author, "and nobody doubts it, that a beautiful row of well-kept teeth in a clean mouth is not of slighter

importance for the growing youth of both sexes, than the ability to dance the finest minuet, or to make the prettiest flower."

On the importance of diet in relation to the preservation of teeth, Gräbner has the following pithy remarks :

Though it were not only possible, but in the highest degree probable, that we could maintain our teeth in health for a much longer time, if we but decided to arrange our mode of life more in accordance with the laws of nature ; if we banished from our kitchens the superfluous spices which spoil our alimentary juices ; if we abstained from those foods which bring us either an imperfect or a too strong alimentation ; and if we—but, such morals are least expected from the mouth of a dentist.

Though burning and extraction of teeth were about all the remedies they possessed in Gräbner's time, yet the tendency to save the "doomed" grinders is very manifest throughout the book. It is a pity that none of the remedies often referred to, and used by the author, have been discovered, which precludes the possibility of forming a judgment as to their real efficacy.

Though Herr Gräbner's was not a time for teeth filling, in the modern sense of that word, yet he gives some remarkable hints worthy of notice. As filling materials he recommends lead, gold foil and wax. He prefers gold on account of its durability, while wax mixed with some balsam must be changed every twenty-four hours.

The observation of irregularities is very striking in the book, and here is a sample opinion :

Yes, I have no hesitation in removing any new tooth, however beautiful, if it spoils the order and well-being of its neighbors ; for, in my judgment, it is always better to have twenty-eight teeth in a regular row, than thirty-two which, at every opening of the mouth, bear unpleasant witness for the carelessness of their possessors or that of the guardian to whose care their wearers have been confided.

That Gräbner possessed the true scientific spirit, and therefore stood for dignity and scientific *prestige* of his profession at that time, is seen clearly from some passages which may not be altogether out of date even to-day. He says :

To break out a tooth is certainly no art ; it requires only shamelessness and foolhardiness, which are the properties of hungry market criers. But to extract teeth every time so that the physician shall get no chiding and the patient no harm from it, requires knowledge, skill, and foresight.

A true dentist must possess those conceptions belonging to his profession, about the division of the human head ; he must know thoroughly the composition and the use and action of his tooth remedies ; he must clearly look into the condition of his patients and the faults of their teeth ; he must, except in extraordinary cases, try to help the tooth ; but if he finds the operation unavoidable, he must seek to convince the patient that he will be

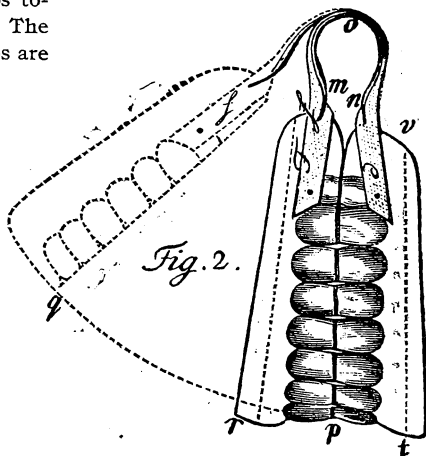
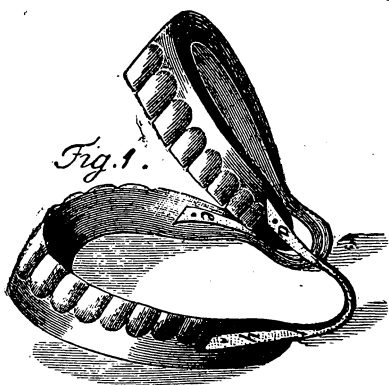
responsible for all dangers attending the extraction of the tooth, that he has selected the only suitable instrument, that he knows exactly the position of the tooth, and not grasp at the sound tooth instead of the sick one, or push it; yes, he must, after a careful examination, be able to foretell the patient how the root of his tooth is shaped; finally, he must not lack, during the operation, the necessary sharpness of the face, lightness of the hand, and steadiness of nerve, or, as the English say, he must have an eagle's eye, a virgin's hand, and a lion's heart.

In conclusion, the author treats of artificial teeth, their preparation and insertion. Of course the materials used were mostly ivory or bone, and as to the instruments, the free hand, with file, lever, knife and polisher were about all the accessories of that period which sounds rather "ancient" now-a-days.

There was little done in Gräbner's times in full sets of artificial teeth, yet Gräbner himself illustrates several apparatuses or "machines" as he calls them, which must have served the purposes of mastication too painfully, but have rather been intended for "celebrated occasions" only.

The following is a description by Gräbner of the working of a set illustrated below:

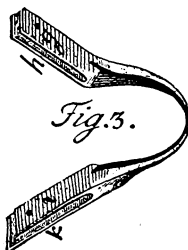
Fig. 1 represents the complete instrument in perspective, and consists of the following parts: two similarly formed arches or clamps of ivory; Fig. 5, the springs holding the clamps together, as shown in d F, Fig. 2. The grooves on one side of the clamps are



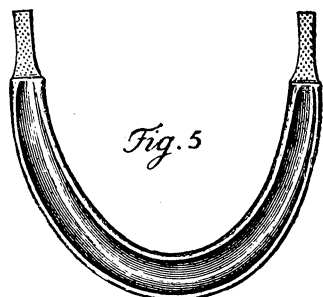
for the purpose of covering the maxillaries, as shown in Fig. 5. Their depth is indicated by Fig. 4 in *u*, and a side view is presented in Fig. 2 by dotted lines *t v* and *r s*. On the other side are the teeth whose thickness is represented in Fig. 4 by *x*.

The clamps are hollowed on the inside to accommodate the tongue, Fig. 4, *w*. The springs in their full expansion are represented in Fig. 3, but

Fig. 2 shows the same, *f d o* as applied to the instrument. *k i* and *h g* Fig. 3 are



the wings by themselves, before they are inserted into the ivory clamps and fastened with pins. They are shown in posi-



tion, Fig. 1 attached on the outside at *y* and *a*, and on the inside at *e*.

These flaps or wings, together with the outside spring, are made of gold of one piece, which must be beaten hard, as the spring must move, and also be thin and feebly worked, that the spring may be bent without breaking. But as such a spring is too thin to be strong enough to expand again, a steel one is set inside of that, *m n o*, Fig. 2. The steel spring is inserted into the incisions *m n*, so that both the expansion of the spring and instrument along the curve *p v*, and the compression of the same, *t p t*, can be seen in Fig. 2.

Both the gold and the steel springs are covered with a silk thread, so that neither the inner gum nor the tongue can be hurt.

The author is evidently conscious of the fact that the denture is far from being perfect, or even as useful as when single teeth and partial sets are used, but he hopes at least that in case a person is to address a cultured audience or appear in high society, that at least he can appreciate the value of a complete set of artificial teeth.

Several cases of implantation, reimplantation and transplantation of teeth were practiced by the author. In one case a servant girl consented to supply an upper front tooth from her mouth for that of her lady, for the consideration of a wedding gown which she just then needed more than any single tooth, the absence of which might pass unnoticed by her sweetheart till protests are no longer dangerous.

The Sandwich Islands have now a dental law, and every one desiring to practice dentistry must undergo an examination. The Examination Commission consists of one physician and two dentists.

The *Zahntechnische Reform*, commenting on this fact, claims that the significance of the above new departure in the but recently half or wholly wild land of Kalakau, gains in interest when it is remembered that there are there only three dental depots doing evidently excellent business. They are all (as a traveler a year ago stated) provided with the newest electric machines.

ARTIFICIAL TEETH AND POPULAR EXPOSITION OF THE DISEASES OF THE TEETH AND GUMS. BY DR. I. M. LAUFER, KIEV, RUSSIA. PRICE, 35 CENTS. 1893.

The author of the above Russian forty-five-page pamphlet fails to state in his introduction whether the exposition is intended for dentists or laymen, but from the perusal of the contents it becomes evident that both may profit by it. Dentistry is therein presented in a nutshell, as it were. The uses and abuses of teeth are presented in strong, winning language. Among the latter we notice the serious mutilations of teeth by the Asiatics and Africans.

Thus married Japanese ladies and those of high state on the islands of Sumatra and Tonkin are ashamed to have white teeth like wild animals, and therefore paint them black by chewing betel.

The priests of Brahma take for their ideal red teeth, and the inhabitants of Zelebyss esteem green teeth the highest.

The natives of the Upper Nile strike out their front teeth, as they do not want to resemble the beasts. A tribe in Central Africa strike out their upper two incisors which, according to the remark of Livingstone, give them an ugly appearance. The presence of incisors is considered as a deformity among that tribe.

Some tribes of the Malay archipelago drill holes in the teeth, in which they place nails with broad heads; other tribes of this archipelago, and also some negro tribes, turn their teeth, by means of a file, into sharp triangular points, like those of a saw. There are tribes in Asia who file their teeth on the surface, transforming them into sharp chisels.

But the inhabitants of the Trinidad gulf excel all others by their mutilations. They file off the teeth crowns to the gums.

CODE OF LAWS, REGULATIONS, ETC., OF THE GOVERNMENT FOR TOOTH DOCTORS, DENTISTS AND LEARNERS. BY DR. I. M. LAUFER, KIEV, RUSSIA. 1893. PRICE, 35 CENTS.

The laws governing the practice of dentistry in Russia are very well circumscribed, and the rule that "none can excuse his ignorance of the law after it has been promulgated in the ordinary form," may be enforced in the Russian Empire with unusual severity. It is the duty of dentists to know them, and have a book to which they can readily refer in times of trouble. Dr. Laufer has embodied in his book all the laws as amended to date, and besides furnishes useful information as to the constitutions of the dental schools, the regulations for the admission to the army, etc. There is also an appendix containing the names and addresses of practicing dentists in Russia. The book is very useful for reference.

The abstract of the most important laws regulating the practice of dentistry in Russia has appeared in Rehfuß' "Dental Jurisprudence," published by The Wilmington Dental Manufacturing Company.

OUR MONTHLY GOSSIP.

By W. E. Blakeney, D.D.S.

DISEASES ARE a tax on our pleasures.

DON'T FRET and worry over what can't be helped.

MORE HYGIENE and less physic is a necessity of the times.

MERCURY WILL retain its purity if you keep it in a glass bottle covered with alcohol.

A VERY ABLE paper, entitled "Elements of Success," by Dr. C. N. Johnson, was read before the Chicago Dental Club in January.

DR. WILLIAM E. CHRISTENSEN made some intelligent comments on the Herbst method of treating pulps in the last issue of the *Cosmos*.

THERE IS now no difficulty in obtaining for a young woman the facilities for an education which will test her capacity as an intellectual equal of man.

EDUCATION MAY do much to check evil tendencies, or to develop good ones, but it is a great thing to inherit the right proportion of faculties to start with.

A DUTCHMAN WANTS to know if he "can have a set of artificial teeth that will enable him to talk German with safety." This fellow should be taught the intricacies of a "Spanish" walk.

DR. T. DWIGHT INGERSOLL is anxious to learn "if it is possible to get a perfect impression of any mouth." Perfect enough, my dear boy, to answer all practical requirements, or artificial dentures would be a failure.

DR. C. W. JOHNSON don't believe in "tormenting his patients with jokes hung at half-mast." The doctor indulges only in the ruddy, fresh variety, witty, sportive, provocative of a good hearty laugh, and being at full-mast.

TO ONE OUNCE of chlorid of zinc crystals, costing twenty-five cents, add water to make a saturated solution, then add one ounce of oxid of zinc, costing five cents, and you have what would cost you five dollars where it is on sale.

MANY DISEASES are traced directly to impure water, and it has been recommended by physicians, who have made a study of cholera in all its forms, that in view of an epidemic of the dread disease this summer, all the water used for drinking be boiled.

DR. FREEMAN wants to know "if while dealing with the afflictions and misfortunes of our race, and necessarily inflicting much pain, we are not, at times, needlessly severe and inconsiderate." I answer, emphatically, Yes; and that inhumanity of this kind is as cowardly as it is despicable.

IT IS SAID that many of the living organisms working on interior organs are helpful to life, while the "outsiders,"—those exposed to the inclemency of the weather, thermal influences, rheumatic pains, dyspepsia, and other enfeebling disorders,—are exceedingly dangerous. Queer, ain't it?

DR. EDWARD C. KIRK is doing the profession valuable service by his able expose of local anesthetic nostrums, many of which are entirely useless for the purpose intended if not absolutely dangerous. Those really meritorious—and some are—will suffer no harm by the learned doctor's analysis of their contents.

EFFORT is being made in some States to secure exemption of dentists from jury duty. Why not? Physicians, as a rule, are exempt, and the profession of dentistry is as much remedial as the profession of medicine. Dentists ought to have sufficient "pull" with our legislators to secure the relief demanded.

"BEFORE INTRODUCING the syringe needle," says Dr. N. S. Hoff, "it should be dipped into a strong solution of carbolic acid, then washed in a five per cent solution of it, which should not be wiped off, for if a drop remains on the point when it touches the gum it will paralyze the tissue so that the needle will not hurt when inserted." These are excellent suggestions.

IT IS the opinion of Dr. Rhein that "where gold is added to amalgam it does not produce a disintegrating effect, but makes a gold amalgam. The addition of amalgam to gold is different, because of the affinity of the mercury in the amalgam for the gold acting continuously, destroying and disintegrating the homogenous qualities of the gold, but not producing a perfect amalgamation."

THERE IS a movement on foot in this State to empower the State Board of Health to "cause an examination and analysis, by a practical chemist, of any drug, medicine, or mixture of drugs, herbs, or medicines commonly known as patent or proprietary medicines, in order to determine if the use of such medicine may endanger the public health." This is a movement in the direction of health and morals, and if successfully carried out will save suffering and life.

"RECORDS SHOW," says Dr. P. W. Moriarty, "that one in twenty of surgical operations performed for congenial cleft palate are successful as an operation, but we never see a case where the speech has been made perfect. In fact, the more successful the operation the greater the injury to the patient, owing to the increased difficulty of mechanical treatment." I would like the opinion of Dr. Kingsley about this.

AMERICAN FAMILY PHYSICIAN COMPANY, is the name of a recent organization in Cincinnati, Ohio. The object of this concern is to furnish medical attendance and medicines at a stipulated rate per year. It is comforting to know that there is a section of country where the cost of dying is reduced to a minimum, but, oh, dear, the cruel agony of the exit when accelerated by the job system! What a fruitful field is here for young "doctors" without medical knowledge or experience!

DR. T. DWIGHT INGERSOLL has been giving some advice to students of prosthetic dentistry. Among other things he says: "After an impression of the upper jaw has been obtained, the groove that represents the ridge of the jaw may be scraped to a depth of about the thickness of two leaves of a dental journal, thinning away from the lowest part of the groove up toward the arch, and up the inside of the flanges toward the cheeks." If the scraping proposed don't get the scraper in a bad scrape I am much mistaken.

"No LIVING germ of disease," says the *Scientific American*, "can resist the antiseptic power of essence of cinnamon for more than a few hours—a conclusion announced by M. Chamberland as the result of prolonged search and experiment in M. Pasteur's laboratory." It is said to destroy microbes as effectually, if not as rapidly, as corrosive sublimate. Even the scent of it is fatal to microbes, and M. Chamberland says a decoction of cinnamon should be taken freely by persons living in places affected by typhoid or cholera.

DR. ARKÖVY says formilid lessens the sensitiveness from touch with forceps. It is useful in chronic peridontitis and total necrosis, also in mouth operations, where the soft parts are concerned. In very sensitive patients, where tannin, iodoform or cocain were used, which showed some unpleasant side effects, formilid showed no such action. A three per cent solution, or mixture with pulv. gummis arabici or mastics, is recommended in taking impressions and habituating to dentures. In its chemical composition it is nearest to antifibrin, and promises to become a useful local anesthetic in dentistry.

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 108. *What should be considered a day's work for an operative dentist—how many hours at the chair?*

I consider eight hours at the chair a day's work.

E. A. Shellinger, D.D.S., Dalton, Mass.

This will depend much on the physical constitution and out of door exercise. I think very few can do good work at the chair for more than six hours a day, and five is better.

W. E. Andrews, Fremont, N. Y.

No operator can safely work more than six hours a day at the chair. If necessary two or three hours additional may be spent at laboratory work, providing the room is clean, light, and well ventilated, otherwise he will feel better and live longer to go from his chair out into the sunshine and remain there as much as his practice will permit.

Earl D. Eddy, San Mateo, Cal.

My office hours are from 8 A. M. to 12 M., and 1 to 6 P. M. in the summer; 1 to 5 in winter. If I am at my chair steady three hours each half day, it is with great pleasure I come to Saturday night. I consider four hours a day, year in and year out, is enough; more than that is what makes so many stooping, round-shouldered, weak-chested dentists.

J. A. Robinson, Morrisville, Vt.

Much depends on the physical strength and endurance of the operator. For the average man, working all the time, eight hours is enough, and six days of the week should be the outside limit. "I can't come any day but Sunday" is an excuse failing to work at my office, and I find those wanting my services, and whose patronage I desire, can come at other times.

L. D. Wood, Grand Rapids, Mich.

Question 109. *What is the best filling to use in soft, chalky teeth—especially inferior molars—that are decayed at gum margin?*

I would expect as good results with oxyphosphates as anything—refilling as often as necessary. I would advise the use of precipitated chalk as a dentifrice, and would rub it between and over the teeth at bed time.

L. D. Wood.

Should use gutta-percha if cavity extends under gum margin. If above gum margin use amalgam containing a large amount of silver—as Flagg's "sub-marine." Should touch points of decay with solution of nitrate of silver before inserting filling.

E. A. Shellinger, D.D.S.

I know of no filling that is the best in all cases. Sometimes I prefer a hard gutta-percha—pink base plate—nicely adapted, and in other cases use oxychlorid or oxyphosphate, capped with an amalgam, containing five per cent. of copper, which hastens oxidation around filling and protects the soft dentine.

W. E. Andrews.

I do not claim my practice is the best, but in this case should fill with amalgam for the following reasons—unless rubber-dam can be used—and my patients object to its use if I can possibly do without it. It will be impossible to keep the cavity dry enough to use any other filling. I fill with amalgam, and if the cavity enlarges by enamel checking I patch on more amalgam. I have many teeth treated in this way, and by this method I can prolong the lives and usefulness of many soft teeth. When I can do no more I put on a cap crown.

J. A. Robinson.

There is no one method or material that will always give good service. In the class of cavities referred to I have had the best results with gutta-percha, containing a large proportion of oxid of zinc. This, however, will not endure the vigorous use of a tooth brush; so for protection I use the whitest amalgam to be found in the market, mix rather dry and press into gutta-percha with a warm burnisher. I finish in such a manner that the metal comes in contact with all portions of cavity above gum margin, but do not attempt to reach cervical margin, if below gum, with the metal covering, as the gum is less liable to recede if allowed to come in contact with gutta-percha.

Earl D. Eddy.

Question 110. *Upper left second bicuspid was refilled with gold and tin. Patient, a man, with mouth in perfect condition, and no other fillings except gold, which are large and numerous. The cavity was prepared and half filled with tin foil, which caused no inconvenience; but when the gold was added an electrical influence was produced, making the operation almost unbearable. Every fresh piece of gold added caused a severe shock, while the contact of plugger with filling produced another, continuing thus throughout the operation, which was completed and not affected by thermal changes. The tooth was filled eight years ago, and filling had been loose about a month before refilling.*

Tooth was not extremely sensitive in preparation of cavity, and malleting did not affect it. Saliva was normal, pulp well protected with dentine and tooth perfectly dry while filling.

How account for ultra-sensitiveness to galvanic action under these conditions? Will the pulp eventually die?

Can not account for galvanic action, as tin, gold, and iron are electro-positive. Do not think pulp will die.

E. A. Shellinger, D.D.S.

Can not understand how any action of the kind can take place between the metals, when there is no moisture. Should think the pulp might die.

J. A. Robinson.

Can not account for shock if conditions were as stated; and if the pulp is well protected by dentine I would not expect it to die.

L. D. Wood.

I think the pulp will live. I should use antiphlogistic medicament—aconit, iodid, capsicum plaster (or tincture) as a precaution. I should

attribute the hypersensitiveness to thermo-electrical influences, or, perhaps, dental neurotic irritation superinduced by infiltrated acidulated secretions.

W. E. Andrews.

The statement of your question is not tenable. "Perfectly dry" means that the surface of cavity is dead to sensation, and this surface will remain dead so long as it continues to be perfectly dry. The absolutely dry surface would present too much resistance for the current to penetrate and disturb the periphery of nerve filaments presenting along the line of union between the enamel and dentine. There is no doubt (judging from your statement), but the tin came in actual contact with some of these nerve filaments containing their normal supply of moisture, notwithstanding the general appearance of dryness in the cavity. The pulp is in no danger unless irritation continues. Prevent the possibility of such experiences in future by applying phenate of cocain dissolved in dilute alcohol, then dry with hot air, and go ahead, insuring comfort to patient and satisfaction to yourself.

Earl D. Eddy.

[Dr. Eddy has given a good answer to the above question, and one suggestive, in many ways, to the thoughtful dentist. We are often asked why cement fillings fail to stick, gutta-percha to hug the cavity walls, and why gold fillings, when finished, prove by delicate test to be loose, and rattle like peas in a pod. Little things often produce great results, may favor success, or horrible failures, and this little matter of dry cavities is a very important factor in successful operations of the mouth. Not one cavity in a thousand is dry when filling is inserted. As an ornament, we used a hot-air syringe for years, and have only recently discovered its usefulness.—ED. Q. B.]

By the latest application of electricity to medical science it has become possible to utilize the human head as a lantern. The electrical apparatus is a small incandescent globe, and an electric light of three candle power and about the size of a big grape. "The beauty of this illuminator," says Dr. Phillips, of this city, "lies in the fact that it enables us to read some conditions of the head which could only be learned heretofore by operations or probings. If the light shines through one side of the face and not the other, we know the dark side is affected. It also throws a light through the bones of the face and discloses formations of the bone. Placed in the corner of the eye, the light shines up through the cavity in the frontal bone just over the eyebrow. Catarrhal diseases are thus located."

"What is the matter with the baby?" asked a lady of a little girl whose baby brother she had understood to be ailing. "Oh nuthin' much," was the answer. "He's only hatchin' teeth."

EDITORIAL.

DISCOLORATION OF GOLD FILLINGS.

This has puzzled many of our best dentists.

"From amalgam on our polisher?" Then why should one filling be stained and others remain bright? Yes, mercury will do it, whether conveyed on an instrument or in ptyalism; but they become tarnished when no amalgam has been used or administered.

"Impure gold?" But with gold from the same book, some will remain bright and some be tarnished.

"Filthiness of the mouth?" Then why should some of our cleanest patients complain, and others who never brush their teeth be exempt?

Let me illustrate the facts and try to show the cause by an anecdote.

A gentleman came into my office with his son, for whom I had filled several teeth with gold, saying:

"Dr. Welch, just look at my boy's teeth you filled. What can you say of such work as that? I sent him to you as being a specially good dentist, and I paid you a specially good price. Now look at the result. Nearly half the fillings have turned so dark they are a disgrace to you and to the boy."

"Not half, Professor Wright. Let me see, only four of the twelve; but this is quite enough. These four do look as though they had been in the fire; or at least they are tarnished as though composed of brass or some other base metal. But, Professor, why should they not all look alike? These two apposing fillings in the right lateral and cuspid, and their opposites on the left side, have turned quite dark, and all of the other fillings remain bright, though the twelve fillings were made at the same time from the same book of gold; even these in the centrals are unaffected. And look here, Professor; on the right lower teeth are four filled with my gold and platina alloy, all untarnished but one. This one, covering the whole buccal side of the second molar, and dipping down quite

below the gum, is as black as my hat, though it is my boast that my gold and platina filling seldom tarnishes. Now you are a teacher of chemistry of some celebrity, explain this difference."

"It is not for me, sir, to explain, but for you. I believe you have filled these teeth with poor material."

"But I aver most solemnly that all this gold is of the same quality, taken from the same book. If the material is poor in one it is poor in all. Besides, you see the same discrepancy in the appearance of those filled with my alloy. As a chemist, please explain the cause and the exceptions; for this is not the first instance of this kind. Many dentists are inquiring why this is thus, as an occasional phenomena, and erratic when it does appear, coloring one filling and unaffecting others."

"Well, come, if you have any *facts* you think will lift the blame from your shoulders, let me have them."

"Well, Professor, here is a piece of litmus paper. Suppose you place it against the surface of the fillings next to the gum."

Contact with the unaffected fillings produced no discoloration of the paper, but its pressure against the discolored fillings proved the presence of acid.

"But this acidity is only slight," said he; "it is not sufficient to produce such an effect as we see here."

"No," we replied; "but put it against the discolored fillings again. Now press the gum so as to bring out what may be just under its edge."

Immediately the litmus paper was turned decidedly red.

"That's wonderful," said he; "and I find no such effect in pressing it ever so firmly against the margins of the gum elsewhere. What kind of acid can it be?"

"Whatever kind it is," we replied, "it is undoubtedly the same that sometimes discolors the teeth themselves next to the gums, and sometimes actually disintegrates its surface. But let me surprise you again, though you have been a professor of chemistry for years. This decidedly strong action on these teeth and fillings is the nascent combination of an acid with an alkali. If you care to demonstrate the fact, you will find it the union of nitric acid with

ammonia. In the little pockets under the gum of these affected teeth is found, from the decomposition of nitrogenous food, nitrate of ammonia. Why this sudden and unusual combination should show itself in some mouths and not in others, and with such virulence as to discolor the best gold, or rapidly to disintegrate the surface of the neck of a tooth, and this in one portion of the mouth, and not in another, and why it should show itself in any mouth, and then in such an isolated and erratic manner, I cannot divine. Before we further discuss its philosophy and chemistry, suppose you make it a study for a time. But while you are becoming satisfied, be sure you require your son to keep his teeth thoroughly clean, using good soap and a little chalk."

He became satisfied the fault was in the condition of the mouth, and not in the quality of the gold.

RECREATION.

The time for recreation is again at hand. Let us be sensible in our plans, and how we carry them out. Unless we use reason, they may bring exhaustion instead of a rest, and we shall come back to our work debilitated instead of re-created.

1st. Seek the place best adapted to *your* condition. The sea shore is not necessarily the best place of resort. For some, the refreshing salt air, and frequent bathing, and absence of excitement is just what is wanted; for others, the clear, dry, bracing air of the mountain region is best. For some, mere physical inactivity is not best. Instead of this, gunning and fishing, climbing and running, hallooing and jumping, bring back youthful vigor. Racing here and there, and actual physical excitement, often produce such a vigorous appetite that new life rushes through every part.

2nd. Recreation does not mean dissipation. The very appetite begotten of an outing may bring an undefinable longing we may seek to dissipate by stimulants and excesses which may satisfy for the moment, but thwart nature's longings. A normal appetite must be satisfied with normal food, and the call for excitement

must be gratified with normal activity, or the reaction will be weakness and languor instead of rest and recuperation.

3rd. Excess in everything should be avoided. Because we find ourselves with an unusual appetite is no reason for gormandizing. The better our appetite the plainer and more substantial should be our food. The digestive organs will soon be overtaxed and deranged, if the mere fancy of the palate is our standard. And so in our exercises. As we feel new, fresh, vigorous blood building up our frame we shall be tempted to do too much. Don't. Husband your strength; always feel that you are laying aside reserve force for your return home. Observe temperance in all things.

4th. Sleep all you can; rest thoroughly, and be a child.

5th. But whether at the seaside, or in the wilderness of the interior, in actual traveling, or at rest, do that which seems *for you* the best. You can hardly be governed by another's opinion. Do that which you believe will bring you home for your work re-created.

And when we get to our work again, let us so work and live as to enjoy work and life. For whether at home or abroad, at work or play, we may make everything a pleasure. If we do this, there will be less necessity for these expensive, distracting outings. It has been about twenty-six years since we have had to do anything we did not like to do. We have had no drudgery, no irksome tasks, and few over burdens. Yet we have accomplished more, made more money, and enjoyed life better than when in excesses and dissipation, we were fretting and fuming because we could not accomplish two days' work in one, or had not the two days' work to do. Happiness and success come without special seeking to those who *live* for them.

THE SECRET OF SUCCESS.

We see around us successful lives, and wonder why we too are not successful. What are the secret springs that make this mighty difference? They do not appear any smarter, naturally, than we are. Yet they pass us on every side, and the public applaud them, while we are unobserved, unrewarded, and unappreciated. We are

at last ready to believe that perhaps, after all, mere chance, luck, "good fortune," makes the difference.

But we only see the results. The feverish longing and tireless energy that leads to careful reflection, the thorough studiousness and incessant struggle that brings refinement, the intense willing and consuming enthusiasm that forms habits of industry, the self-sacrifice and painstaking planning that molds mind and spirit and muscle for some definite purpose, that makes the rough man polished, the blundering man skilful, and the wandering, fixed, steady, definite, powerful at some given point—all this we do not see.

The best written composition, the most acceptable oratory, the greatest works of art or industry, is that which conceals the labor that produced it. So the most successful life stands before us ready made, the rubbish all cleared away, the labor all hidden, and the losses and processs which have brought perfection all covered with springing life and beauty.

Dr. W. S. Elliott, of Sag Harbor, N. Y., on another page has presented an article in familiar conversation with a patient, which he proposes as a sort of model for a series from different dentists, to be used in tract or pamphlet form. He says:

Let me explain my scheme. These papers should be published separately as tracts, so that dentists can select from the many such as would meet their private views, or such as would meet the demands of their practice. Further, these tracts should come from different pens—impersonal—except that each should be endorsed with the initials of the author, that the profession may know who is the writer. Then I would say to an author, give me a paper, and if it is approved I will publish it in a simple tract form, and will give you a hundred or more copies of it, or an equivalent in any other tract that is or may be published. And if a non-writer desires copies they could be furnished at, say, thirty cents per hundred. If necessary they could be secured by copyright.

I would like ten or twenty papers suitably written, that they may be published simultaneously, thus keeping the cost of printing low.

The exact form I have not settled on ; but the various religious organizations show many forms that would be acceptable.

NOTES.

The meeting of the California State Board of Dental Examiners will be held in San Francisco August 1st, instead of August 8th.

* * *

At the forty-first annual commencement of the Woman's Medical College, Mrs. Mary E. Mumford, President of the Corporators, awarded diplomas to forty-seven women, the largest class that has ever graduated from the college.

* * *

A good Rochester (N. Y.) pastor, a widower, proposed to a young lady a short time since, but was rejected. His feelings had the second severe test when a widow neighbor sent him the following text to preach from: "You ask and receive not, because you ask a miss."

* * *

Dull or improper instruments are cause for complaint. The idea of some that it will be taken as evidence of skill to have but few instruments, and the boast that "I can use anything," is nonsense; the more skillful the dentist, the keener, brighter and more delicate, varied and appropriate will be his instruments.

* * *

Nearly all of us are ready to do some great thing, if we have the opportunity. But are we as ready to do well the little things that lead up to these great things? Few of us sufficiently realize the importance of "trifles" and the fact that great things are made possible only by the aggregation of these little things. We cannot therefore afford to show inattention, indifference, or carelessness in the performance of the every-day details of our work.

* * *

Dr. Charles B. Atkinson says that a twenty-five per cent pyrozone, ethereal solution, is probably the best bleacher for teeth that has ever been offered. Its effect is exceedingly prompt and the results permanent. The process is not attended with pain unless the gums be touched, when a severe pricking sensation is produced, and a coagulum seems to form in most cases; but this will return to a normal condition if not abraded. He also recommends it in treating abscess pockets and suppurating pyorrhea alveolaris.

* * *

It is said James A. Moore, of Sedalia, Mo., who is 77 years of age, has discovered the fountain of youth. Three years ago he

was taken violently ill with neuralgia and had all of his teeth pulled. He also lost the sight of one eye. Several weeks ago a new set of teeth began to brace his gums, and now all of the front teeth of both upper and lower jaws are full grown and as firm as those of a young man. The molars, which are just coming through, are soft and will not be of any use, but Mr. Moore is now in the best of health.

* * *

EDITOR ITEMS OF INTEREST:—I mail you to-day a sample of a preparation used by a quack in extracting teeth without pain.

He stayed here for a week and took out any number of teeth and in nearly every case without pain. It is used hypodermically, enough to turn gum white. If you see fit you might have it analyzed and let the readers of ITEMS have the benefit, for there is no doubt that it is a success, in his hands at least.

H. F. Johnston, Griggsville, Ill.

[Would we not all like to be a quack if we could be as successful as some of those quacks are? But is it necessary to be a quack to be successful? Why cannot we do any thing that a quack can do?—ED. ITEMS.]

* * *

[The following is from a prominent dentist in Indiana, to one of some celebrity in New Jersey. I am sufficiently acquainted with both parties to believe the statements to be entirely reliable. Does it not prove that painless dentistry is a success?—ED. ITEMS.]

DR. S——: Allow me to say in answer to your inquiry, the local anesthetic of Dr. — for sensitive teeth has paid me better than any investment I ever made. It has greatly increased my business, so much that I have had to employ an assistant operator. It makes operating much easier, and delights the patients.

Such is my experience; all do not have as complete success with it as I do, but I see no reason why they may not. It makes painless operations practicable, but will not compensate for rough, bungling operations and dull burs.

S. M. G.

* * *

Lions, as well as men, are subject to toothache. One of these kings of the forests, now in captivity in a menagerie in Paris, was suffering from a fistula in the jaw, brought about by an irregular tooth. A brave veterinary surgeon ventured into the cage after the beast had been suspended on a plank and held there by six resolute men. A gag was introduced into the lion's mouth, and

the doctor commenced his difficult operation. At the end of five hours, in which the lion showed what he could do in the way of vocalizing his agony, the offending molar was extracted.

After a short time the majestic animal, freed from the fistula, was again the well-contented object of a curious public. It is, however, remarkable that while he obeys all the commands of his managers, he would not allow any one to touch his mouth. He is afraid of the dentist!

* * *

In sodium peroxid we seem to have a fine bleacher for discolored teeth. We also have in this, one of our best agents for dissolving out inaccessible pulp in pulp canals. It is also extremely penetrating, going into every tubuli of the dentine, and destroying and neutralizing the organic matter. It thus sterilizes these fine canals, and thoroughly cleanses the distorted and narrow roots of molars we cannot otherwise reach. As Ottolengui says:

Here we have exactly the method which we are looking for,—a method of treating those inaccessible pulps medicinally by dissolving and ejecting their contents, at any rate sterilizing them; and it seems to me that this is one of the most important points brought before us, for it gives us a chance to do away with abscesses, and also to attack those cases where decomposition has gone further and reached the tubuli. It seems to me that we have here a remedy which, intelligently appropriated, will help us out in the treatment of the difficult cases noted, and I hope that end of the subject will be worked up rather than the bleaching, as we do not need to bleach teeth so much as to perfectly sterilize them.

* * *

In the discussion of papers read at meetings of American Academy of Dental Science and Harvard Odontological Society, as reported in June number of *International Journal*,

Dr. Eames said: "I would like to ask * * "

Dr. Banfield said: "I would like to ask * * "

Dr. Moffat said: "I would like to ask * * "

Dr. Andrews said: "I would like to ask * * "

President Stanton said: "I would like to ask * * "

Dr. Clapp said: "I would like to ask * * "

Dr. Hopkins said: "I would like to ask * * "

Dr. Smith said: "I would like to ask * * "

In nearly every meeting where discussions are held, this phrase is repeated over and over *ad nauseum*. The critic "would like to ask" if the speakers (or reporters) will not leave it off? Gentlemen, if there are questions to be asked—ask them, and not say how much you "like to ask." We all know this.

E.

FOR OUR PATIENTS.

THE DENTIST'S CHAIR.

I start from home with a quickened pace
And rush as a runner that runs a race,
But the raging tooth within my head
Gives way for a moment with awful dread
To the knock and the shock and the wailing woe,
Of the victim that must to the dentist go.
For who has not felt the fearful scare
Of the first approach to the dentist's chair?

The doctor speaks, and a gentle smile
Suffuses his well-pleased face the while ;
A dentist's smile would seem a sin
When you think of the torture this patient is in.
"A beautiful day," he remarks, a truth
No one would know with an aching tooth ;
No day is fair to one in despair,
Writhing in pain in a dentist's chair.

He told me to open my mouth, but lo!
He opened it for me ere I could know,
With skilled finger and thumb that knew no awe
Of tender lips or of fractured jaw ;
I never knew that the mouth could be
Opened so wide for another to see,
As mine was wrenched to my dire despair,
When I sat at first in that dentist's chair.

He hewed at my teeth, and it seemed to my soul
Like a miner hewing a block of coal ;
He touched the nerve and the agony fleet
With lightning speed went down to my feet ;
I could feel in that flash of fearful pain
My nerves, my spine, my muscles, my brain ;
We are fearfully made, and I felt it there
As I suffering sat in the dentist's chair.

He placed a grindstone small to the bone,
But the biggest grindstone ever known
Couldn't feel as big as that whirling wheel,
While the pains were flying like dust from meal,
As he sent it whizzing and whirling still
Till my head was just like a rolling-mill,
And I felt that I could any agony bear
If once I was out of that dentist's chair.

The cavity, near as I could tell,
Was about as deep and as wide as a well,
But he filled it, gilded it, smoothed it so
That the microbes could not into it go;
And I looked and I saw to my great surprise,
That gilded tooth was of no great size,
And I learned, 'tis well to brave and to bear
As I had done in the dentist's chair.

Rev. J. P. Hutchinson, in Iowa State Register.

THE GREAT ORDEAL,

Dr. W. S. Elliott, Sag Harbor, N. Y.

Patient: Doctor, I feel terribly nervous about having my teeth taken out; I have been trying to screw up my courage for more than a year, and now I am suffering so much pain that I suppose I must submit to the dreadful ordeal. Will you please look at them, and tell me if it will be a painful operation—and ought I to take gas?

Doctor: Please take the chair; I will look them over, and advise you to the best of my judgment. * * * Well! I am surprised that you should desire to lose any of your teeth. It is true, several are decayed; one has an exposed and inflamed pulp; another is broken off nearly to the gum line, and the gums and mouth generally are in a diseased condition; but these are not sufficient reasons for extraction. Do you not know that it is within the province of the dentist, who has given close study to these subjects, to treat all these affections, and thus restore every tooth and the mouth to healthy conditions.

Patient: But, doctor, they pain me, and I cannot bear the agony another day.

Doctor: You need not; allow me to serve you from the standpoint of professional ability, and I trust you will thank me for the results. This little pellet I will seal in the cavity of exposure, preliminary to further treatment. Doubtless your past dental experience has been disappointing, and you are impressed with the idea that nothing can be done but to extract. Surely it would be deep humiliation if, after so many years of careful study and practice, I was obliged to acknowledge that no progress has been made towards saving the teeth. Old time methods and the lack of knowledge of the true nature of disease, indeed did often fail, and even now there are many who are plodding along in the old weedy paths

of ignorance and indifference. But new light has fallen on the profession in these latter days, and greater possibilities are realized. The microscope has opened up new revelations; chemistry has unfolded to the understanding much that has heretofore been hidden relative to the composition of matter; electricity shows its play of activities in connection with living tissues; new remedies have been discovered, and new methods of manipulation adopted. Bacteriology and the science of therapeutics are revolutionizing the practice of dental medicine. Scarcely a month or a week goes by but some new discovery is announced, and what was once only hoped for is now happily and surely accomplished.

Now, while I have been talking, your countenance assures me that the pain has subsided and you are comparatively comfortable. The medicine has had a soothing influence, and it will bridge you over till my time and your opportunity will permit us to follow out the line of treatment indicated.

Patient: But the broken tooth—what will you do with that? I suppose in this instance you will resort to extraction?

Doctor: Not at all. I will build on the roots a crown of gold which will be to you a joy forever; and across these vacant spaces I will span a bridge of gold and porcelain that will enable you to masticate more thoroughly, and so relieve the natural teeth from the undue work and strain that they are now subjected to. Your gums and the mouth generally will receive proper medicinal treatment, whereby ease will be instituted instead of disease and discomfort. When all this is accomplished I will demand of you your coöperation in the maintenance of a condition of permanent health. I will insist that you be diligent in brushing the teeth and cleansing the mouth night and morning; the microbes will thus be vanquished, and victory be written on the shield of your endeavor.

Patient: Doctor, I thank you for your words of encouragement. This is all new to me. Had I been aware of the possibilities you speak of I would not have suffered these many months with worryment and pain. I have heard incidentally of the vast strides made in dental science, but I have not before realized the fact as you have set it before me, and I now see that this advanced position is only attained by those who love their profession, and who are foremost in their endeavors to secure the highest good attainable.

Doctor: Yes; colleges have been instituted for systematic instruction; societies are formed for the promulgation of knowledge and the cultivation of social intercourse among the members. Thus, fraternity of feeling is fostered, jealousies annihilated, and

interchange of views and experiences made, to the betterment of all who participate. He who is not progressive is retrogressive, since such an one will be left far behind in the race for the championship.

Patient: Encouraged as I am, I will be guided by your judgment and advice. There is one thing, however, I would like to speak of: What will be the probable cost of all this? I am not like Cleon, who "hath an hundred acres;" therefore I would not deem it an improper question to ask.

Doctor: It is impossible to definitely estimate it, but whatever it may be it will be money well invested, and it will pay you a better interest than do many of the indulgencies of your every-day life. As you trust me in my ability to serve you professionally, so you will confide in me to do you justice in the fee. Now, in the confidence of professional intercourse, we will enter on our duties, and will name a day and an hour which will be devoted to you exclusively, and let us trust that no trivial circumstance will intervene to prevent a prompt fulfilment of the appointment.

DENTAL JURISPRUDENCE.—The somewhat novel suit brought in the district court at St. Paul, by a dentist, D. D. Smith, against William Woolsey, to recover for a set of teeth, said to have been made by the plaintiff for the defendant, and for which the defendant has refused to pay, has been decided by Judge Kelly. The decision discharges the order to show cause why Woolsey should not give up teeth to the sheriff to sell at a public auction to the highest bidder, and thus afford the plaintiff relief. The judge holds that the teeth, as long as they remain in the mouth of the defendant, are a part of his anatomy and cannot be seized, but should they ever, by chance, fall from the mouth of Woolsey into the hands of the vigilant deputy sheriff, the plaintiff can cause them to be seized and disposed of.

A CURIOUS OLD CUSTOM IN NORWAY.—In some parts of Norway, in houses of the rich and the poor peasants, wooden chairs can be found, in which rows of teeth have been sunk. It has been the custom of past generations to sink into those seats the temporary teeth, and though now abandoned, it is said that the strange custom dates back to the times of fetichism.

DOCTOR AND DENTIST.

All diseases which profoundly affect the nutrition influence the development of the teeth ; and since the growth of the teeth is mainly limited to the age of childhood, their condition is especially influenced by children's diseases.

Faulty nutrition or severe wasting illness show themselves nowhere more prominently than in the development of the bones and teeth ; and on the other hand good teeth in children play a very important part in producing a healthful and robust manhood or womanhood. Decaying and loosened teeth directly favor imperfect mastication and consequent indigestion.

Indigestion favors poor nutrition ; it causes the secretions of the mouth to become acid in reaction—a perversion of the normal reaction of the saliva, which attacks the teeth and favors their rapid decay.

A case of this kind has lately been observed. A child, naturally good-natured but “spoiled” by indulgent parents, was allowed to eat fresh cakes, expensive candies, jams, pastries. Attacks of indigestion, with vomiting of the acid contents of the stomach, supervened. The teeth softened, “became poor” at an early age.

In order to assure a child a healthful bodily development and protect it from the evils of subsequent attacks of indigestion, there must be something more than a correction of its diet. The teeth should be filled. This guards against disease of the alveolar process, or the bony portion of the jaw into which the roots of the teeth are inserted, against an unsymmetrical growth of the jaw itself, and against an involvement of the second tooth, just developing beneath the first.

A regular supervision of children's teeth would save large dentist's bills, and would undoubtedly tend to a healthier, stronger race of mankind. From the time of the first appearance of the teeth through the gums, they should be subjected to a rubbing twice a day with a soft rag and lime water, till the twelfth month of infancy, when a soft brush should be substituted.

Frequent visits to the dentists are an absolute necessity.

Children who are allowed to eat warm bread, rich pastries, cakes and candies are almost invariably subject to habitual attacks of indigestion. The far-reaching effects of such attacks can be avoided by the prohibition of such food. Meat, not too tender, and crusts of bread are excellent objects on which a child's teeth may be exercised and strengthened.

Companion.

NOTICES.

The twenty-third annual meeting of the South Carolina State Dental Association will be held in Columbia, Tuesday, August 8th, 1893, continuing four days. All members of the profession are cordially invited to be present.

C. S. Patrick, President.

B. Rutledge, Recording Secretary.

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The South Dakota State Board Dental Examiners will meet in Yankton, S. D., July 13th, 1893, and continue in session two days, for the purpose of making examinations and passing on diplomas of any one who may desire to begin the practice of dentistry in this State. No examinations made or certificates issued only at regular annual meetings. Any one desiring to appear before the Examining Board at that time will oblige by notifying the Secretary at once.

W. H. H. Brown, Sec'y, Yankton, S. D.

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The twenty-fourth annual meeting of the New Jersey Dental Society will meet at the West End Hotel, Asbury Park, July 19th, 20th and 21st. Papers of interest will be read, and prominent dentists will give interesting clinics.

Chas. A. Meeker, D.D.S., Secretary.

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The Illinois Dental Society was held in conjunction with the Iowa State Dental Society, at Rock Island and Davenport, May 9th-12th, 1893. The following officers were elected for the ensuing year: Garrett Newkirk, Chicago, President; J. W. Cormany, Mt. Carroll, Vice-President; Louis Ottofy, Chicago, Secretary; W. A. Stevens, Chicago, Treasurer; F. H. McIntosh, Bloomington, Librarian.

Louis Ottofy, Secretary.

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The first annual meeting of the Woman's Dental Association of the United States was held in Philadelphia, March 4th, 1893. The following officers were elected for the year: Dr. Mary H. Stilwell, President; Dr. Anna K. Lettenmeier, Vice-President; Dr. Eliza Yerkes, Recording Secretary; Dr. Annie T. Focht, Corresponding Secretary; Dr. Maria Lasser, Treasurer; Drs. Elizabeth A. Davis, Hannah M. Miller, Bertha M. Jarrett, Edith L. Brown, Emily W. Wyeth, Executive Committee.

THE WORLD'S COLUMBIAN DENTAL CONGRESS.

The following are the officers of the sections :

"SCIENCE."—DEPARTMENT "A."

Section 1. Anatomy and Histology.—Chairman, R. R. Andrews, Cambridge, Mass.; Vice-Chairman, E. P. Beadles, Danville, Va.; Secretary, F. T. Breene, Iowa City, Iowa.

Section 2. Etiology, Pathology and Bacteriology.—Chairman, G. V. Black, Jacksonville, Ill.; Vice-Chairman, George S. Allan, New York, N. Y.; Secretary, E. S. Chisholm, Tuscaloosa, Ala.

Section 3. Chemistry and Metallurgy.—Chairman, D. R. Stubblefield, Nashville, Tenn.; Vice-Chairman, J. S. Cassidy, Covington, Ky.; Secretary, E. V. McLeod, New Bedford, Mass.

Section 4. Therapeutics and Materia-Medica.—Chairman, F. J. S. Gorgas, Baltimore, Md.; Vice-Chairman, N. S. Hoff, Ann Arbor, Mich.; Secretary, George E. Hunt, Indianapolis, Ind.

"APPLIED SCIENCE."—DEPARTMENT "B."

Section 5. Dental and Oral Surgery.—Chairman, T. W. Brophy, Chicago, Ill.; Vice-Chairman, M. H. Cryer, Philadelphia, Pa.; Secretary, J. F. Griffiths, Salisbury, N. C.

Section 6. Operative Dentistry.—Chairman, William Jarvie, Brooklyn, N. Y.; Vice-Chairman, Daniel N. McQuillen, Philadelphia, Pa.; Secretary, William Crenshaw, Atlanta, Ga.

Section 7. Prothesis, Orthodontia.—Chairman, C. L. Goddard, San Francisco, Cal.; Vice-Chairman, T. L. S. Hacker, Indianapolis, Ind.; Secretary, E. H. Angle, Minneapolis, Minn.

Section 8. Education, Legislation, Literature.—Chairman, J. J. R. Patrick, Belleville, Ill.; Vice-Chairman, H. L. McKellops, San Francisco, Cal.; Secretary, W. H. Whitslar, Cleveland, Ohio.

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EDITOR ITEMS:—The following are the new officers of the Georgia Dental Society: President, N. A. Williams, Valpostia; First Vice-President, W. W. Hill, Washington; Second Vice-President, C. V. Rosser, Atlanta; Treasurer, H. A. Lowrance, Athens; Corresponding Secretary, O. H. McDonald, Griffin; Recording Secretary, S. H. McKee, Americus.

Examining Board.—J. H. Coyle, Chairman, Thomasville; D. D. Atkinson, Secretary, Brunswick; A. G. Bouton, Savannah; B. H. Catchings, Atlanta; H. H. Johnson, Macon. Executive Committee.—H. R. Jewett, Chairman, Atlanta; O. B. Barfield, Macon; D. Hopps, Savannah; Hanes, Cedartown; Simmons, Guyton.

O. H. McDonald, Corresponding Secretary.